

United States Environmental Protection Agency  
Region 10  
1200 Sixth Avenue  
Seattle, Washington 98101

AUTHORIZATION TO DISCHARGE UNDER THE  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Clean Water Act,  
33 U.S.C. §1251 et seq., as amended by the Water Quality Act of 1987,  
P.L. 100-4, the "Act",

Department of Defense  
Department of the Navy  
Puget Sound Naval Shipyard  
Bremerton, Washington 98314

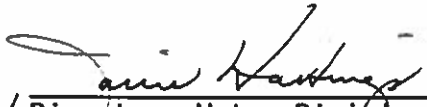
is authorized to discharge from facility located at Bremerton, Washington  
to receiving waters named Sinclair Inlet,

in accordance with discharge point(s), effluent limitations, monitoring  
requirements and other conditions set forth herein.

This permit shall become effective April 1, 1994

This permit and the authorization to discharge shall expire at midnight,  
April 1, 1999.

Signed this 2nd day of March, 1994.

  
for/ Director, Water Division, Region 10  
U.S. Environmental Protection Agency

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## I. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

A. Specific Limitations and Monitoring Requirements.

1. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge drydock drainage and noncontact cooling water from outfalls 018 (including 018A and 096) and 019, treated steam plant wastewater from outfall 021, and stormwater runoff, demineralized water, steam condensate, salt water supply system, and potable water from the remaining outfalls.

a. Such discharges shall be limited and monitored by the permittee as specified below:

<u>OUTFALL NUMBER</u>	<u>EFFLUENT CHARACTERISTIC</u>	<u>Unit of Measurement</u>	<u>DISCHARGE LIMITATIONS</u>		<u>MONITORING REQUIREMENTS</u>	
			<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Sampling Frequency</u>	<u>Sampling Type</u>
018, 018A and 096	Flow	MGD	--	--	Weekly	Estimate
	Oil and Grease	mg/l	10	15	Weekly	Grab
	Copper	mg/l	0.019	0.033	Weekly	Grab
	(Total Recoverable)	lbs/day 4/	0.44	0.77		
	Lead, Mercury, Zinc	mg/l	--	--	Monthly 1/	24-hr composite
	Copper (Total Recoverable)					
	Temperature	*F	--	--	Monthly	Grab
019	PCBs	mg/l	--	--	Monthly 1/	Grab
	Whole Effluent Toxicity Testing	--	--	--	per Part I.C.	
	Flow	MGD	--	--	Weekly	Estimate
	Oil and Grease	mg/l	10	15	Weekly	Grab
	Copper	mg/l	0.019	0.033	Weekly	Grab
	(Total Recoverable)	lbs/day	0.83	1.44		

<u>OUTFALL NUMBER</u>	<u>EFFLUENT CHARACTERISTIC</u>	<u>Unit of Measurement</u>	<u>DISCHARGE LIMITATIONS</u>		<u>MONITORING REQUIREMENTS</u>	
			<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Sampling Frequency</u>	<u>Sampling Type</u>
	Lead, Mercury, Zinc Copper (Total Recoverable)	mg/l	--	--	Monthly <u>1</u> /	24-hr composite
	Temperature	°F	--	--	Monthly	Grab
	PCBs	mg/l	--	--	Monthly <u>1</u> /	Grab
	Whole Effluent Toxicity Testing	--	--	--	per Part I.C	
021	Flow	MGD	0.17	--	Continuous	Recorded
	Temperature	°F	70 (winter) 75 (summer)	90 (winter) 90 (summer)	Daily	Grab
	Oil and Grease	mg/l lbs/day	10 14.18	15 21.28	Daily	Grab
	TSS	mg/l lbs/day	30 42.53	100 141	3/7 days	24-hour Composite
	Total Residual Chlorine	mg/l	--	0.20	Daily <u>2</u> /	Grab
	Free Available Chlorine	mg/l	0.20	0.50	Daily <u>2</u> /	Grab
	Chromium <u>3</u> / (Total Recoverable)	mg/l	0.20	0.20	Weekly	Grab
	Zinc <u>3</u> / (Total Recoverable)	mg/l	1.0	1.0	Weekly	Grab
	pH	S.U.	(1)	--	Daily	Grab

(1) pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored continuously and recorded. The total time during which pH values are outside the range of 6.0 to 9.0 shall not exceed one percent of the operating time each month. The permittee shall report on the DMR the maximum and minimum pH, and for any excursions above or below the limit, the total number of minutes per month of excursion and the number of excursions exceeding 60 minutes.

(2) Whole effluent toxicity testing required in part I.C. for discharges 018 and 019 shall be conducted on discharge samples collected concurrent with chemical specific monitoring required under part I.A. Toxicity testing protocols and reporting requirements are established in section I.C. below.

1/ Monitoring shall be conducted for one year (12 monthly samples). Additional monitoring or effluent limitations may be proposed by permit modification if the monitoring results indicate any reasonable potential that water quality standards may be exceeded in receiving waters.

2/ Monitoring for these parameters is required only in the event that use of chlorine is resumed. The permittee shall indicate on the DMR form "no discharge" for these pollutant parameters except when monitoring and/or chlorine usage actually occurs.

3/ Limitations and monitoring requirements for these parameters apply to the wastewater flow from the air compressor cooling tower blowdown and diesel generator cooling tower blowdown before it is commingled with other waste streams.

4/ Load limitations for copper applicable to the cumulative discharges from outfalls 018, 018A and 096

- b. There shall be no discharge of floating solids, visible foam in other than trace amounts, or oily wastes which produce a sheen on the surface of the receiving water.
- c. Discharges are not authorized to cause a violation of State Water Quality Standards as defined in Chapter 173-201A WAC outside the boundaries of the mixing zones established as described below:

For outfall 021, the boundaries of the mixing zone where the discharge shall not cause an exceedance of water quality standards for temperature and marine chronic effects is 150 feet in any horizontal direction from the diffuser. Water

- f. Discharges from the permittee's salt water supply system shall not contain biocides in concentrations which may cause exceedance of state water quality standards.
- g. Vessel bilge and ballast waters shall be treated to remove oil and grease in accordance with approved shipyard operating instructions (No. 0593-903 or as amended).
- h. Storage piles of salt used for deicing or other commercial or industrial purposes shall be enclosed or covered to prevent exposure to precipitation, except for exposure resulting from adding or removing materials from the pile. Dischargers shall demonstrate compliance with this provision as expeditiously as practicable, but in no event later than three years after the date of issuance of this permit. Piles do not need to be enclosed or covered where storm water from the pile is not discharged to waters of the United States.
- i. Any discharge composed of coal pile runoff shall not exceed a maximum concentration for any time of 50 mg/l total suspended solids. Coal pile runoff shall not be diluted with storm water or other flows in order to meet this limitation. The pH of such discharges shall be within the range of 6.0-9.0. (Note: the coal storage area at PSNS is enclosed in a large building. Stormwater runoff from the area surrounding the coal storage building is anticipated to discharge via outfall 022).

**B. Compliance Schedule and Interim Limitations**

1. During the period beginning on the effective date and lasting until December 31, 1996, the following interim limitations shall apply to discharges from outfalls 018 (including 018A and 096) and 019.

	Units of Measurement	Monthly <u>Average</u>	Daily <u>Maximum</u>
Copper (total recoverable) <sup>1/</sup>	mg/l	0.045	0.070

<sup>1/</sup> Monitoring and reporting requirements are not changed from permit part I.A.1.a.

If EPA determines that cause for modification exists pursuant to 40 CFR 122.62, this section of the permit may be reopened and modified to accommodate such cause.

**C. Ambient Monitoring**

Ambient receiving water monitoring for total recoverable and dissolved copper, lead and zinc shall be conducted quarterly during the first year of this permit. Each sampling event will consist of three samples collected at different tidal conditions (incoming, outgoing and low slack). The monitoring location shall be approximately mid-way across Sinclair Inlet in a southerly direction from drydock 6. The latitude and longitude coordinates of this sampling station shall be established prior to or during the first sampling event to allow relocation for future sampling. Station coordinates shall be reported with the monitoring data.

quality standards for acute effects shall be met within 24 feet in any horizontal distance from the outfall. Mixing zones shall extend from the surface to the bottom of the receiving water.

For outfalls 018 (including 018A and 096) and 019, the boundaries of the mixing zone where the discharge shall not cause an exceedance of water quality standards for temperature and marine chronic effects is 200 feet in any horizontal direction from the discharge. Water quality standards for acute effects shall be met within 20 feet in any horizontal distance from the outfall. Mixing zones shall extend from the surface to the bottom of the receiving water.

Mixing zones for discharges or stormwater runoff from other shipyard outfalls are not established in this permit. EPA anticipates that implementation of best management practices and stormwater pollution prevention plan, as required in this permit, will minimize the potential for water quality impacts from these discharges.

- d. There shall be no discharge of polychlorinated biphenyl (PCB) compounds.
- e. For the purposes of reporting, the Permittee shall use the lowest calibration or the CRDL (as defined below). The permittee must conduct analyses in accordance with the analytical method specified below or use other equally sensitive EPA approved (per part 40 CFR 136) methods. A standard must be used which is equivalent to the quantification level specified below:

<u>Parameter</u>	<u>Analytical Method</u>	<u>CRDL and Lowest Calibration Concentration</u>
Arsenic	206.2	10 ug/l
Cadmium	213.2	1 ug/l
Chromium	200.7	10 ug/l
Copper	220.2	10 ug/l
Cyanide	335.2	10 ug/l
Lead	239.2	5 ug/l
Mercury	245.1	0.2 ug/l
Nickel	249.2	5 ug/l
PCB	608	1.0 ug/l
Zinc	200.7	20 ug/l

For the purposes of reporting on the discharge monitoring report, all analytical values below the quantification level may be reported equal to 0. All analytical values at or above the quantification level shall be reported as the measured value.

The permittee shall report in the Comment Section on the discharge monitoring report the lowest calibration standard used, the number of results that were found to be below the quantification level, and the quantification level achieved.

Samples shall be collected according to Recommended Sampling Protocols for Measuring Metals in Puget Sound Water, Sediment and Tissue Samples (December 1989). The depth of water from which samples are collected shall be consistent throughout this period of sampling.

#### D. Whole Effluent Toxicity Testing

The permittee shall conduct monitoring to determine the acute and chronic toxicity of discharges from outfalls 018 and 019. Toxicity testing shall be conducted on 24-hour composite samples collected quarterly during the first year of this permit. Samples for toxicity testing shall be collected concurrently with samples collected for chemical analyses (as required under part 1.A., above). Testing shall be accomplished according to reporting and monitoring protocols identified below.

##### 1. Acute Tests

The Permittee shall conduct acute toxicity testing in accordance with following paragraphs a - e, and section 3.a - g, below.

- a. The Permittee shall conduct 96-hour static renewal or flow-through tests for estimating toxicity of the effluent using one of the following organisms:
  - (1) Silverside Minnow (Menidia beryllina)
  - (2) Mysid Shrimp (Mysidopsis bahia).
- b. The Permittee shall conduct testing according to the guidelines set forth in Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms (Fourth Edition), EPA/600/4-90/027.
- c. The toxicity testing shall include a series of six test solutions, ranging from zero percent effluent (control) to 100 percent effluent. No additional testing at other dilutions is required if the NOEC is determined to be 100 percent effluent. Adjustments to salinity may be used, if necessary, to minimize effects of low salinity on marine test organisms. Salinity adjustment may be made according to current recommended procedures using sea salts or receiving water. Based on available data, dilutions shall be selected that will bracket the expected  $LC_{50}$  (see definitions) of the effluent. Test results shall be reported in acute toxic units ( $TU_A$ , see definitions). In addition, the Permittee shall report the  $LC_{50}$  of the effluent in control water, as well as the 95 percent confidence limits of the  $LC_{50}$ , calculated using an internally consistent scheme based on the moving average angle, graphical, or probit method, as appropriate.
- d. In conducting acute tests, the Permittee shall also report responses that could reasonably be expected to result in ecological death (e.g., cessation of swimming behavior) and, if possible, the Permittee shall determine a 96-hour  $EC_{50}$ .
- e. All reporting, quality assurance criteria and statistical analyses used for acute tests shall be in accordance with Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine

Organisms (Fourth Edition), EPA/600/4-90/027. The report of acute test results shall include all relevant information outlined in Section 12 of the above document.

## 2. Chronic Tests

The Permittee shall conduct chronic toxicity testing in accordance with the following paragraphs a - e and section 3.a - g , below.

- a. The permittee shall conduct chronic toxicity testing using one of the following organisms:

- (1) Sand dollar (Dendraster excentricus)
- (2) Green, purple or red sea urchin Strongylocentrotus droehbachensis, Strongylocentrotus purpuratus, Strongylocentrotus franciscanus, respectively)
- (3) Pacific oyster (Crassostrea gigas)
- (4) Bay mussel (Mytilus edulis)

Species shall be selected based on availability of organisms in spawning condition.

- b. All test organisms and procedures for the bivalve larvae tests shall be in accordance with:

Standard Practice for Conducting Static Acute Toxicity Tests with the Larvae of Four Species of Bivalve Molluscs, designation: E 724-89. ASTM. 1989.

All test organisms and procedures for the echinoderm tests shall be in accordance with:

- (i) Improved Methodology for a Sea Urchin Sperm Cell Bioassay for Marine Waters. Dinnel, P.A., J.M. Link, and Q.J. Stober. 1987. arch. Environ. Contam. Toxicol. 16:23-32; or
- (ii) Methodology and Validation of a Sperm Cell Toxicity Test for Testing Toxic Substances in Marine Waters, Dinnel, et al., FRI-UW-8306, November 1983; and

EPA Region 10 Guidance for Conducting Effluent Toxicity Tests Using West Coast Sea Urchins and Sand Dollars.

- c. The toxicity testing on each organism shall include a series of six test solutions, ranging from zero percent effluent (control) to 100 percent effluent. No additional testing at other dilutions is required if the NOEC is determined to be 100 percent effluent. Adjustments to salinity may be used, if necessary, to minimize effects of low salinity on marine test organisms. Salinity adjustment may be made according to current recommended procedures using sea salts or receiving water. Based on available data, dilutions shall be selected that will bracket the expected no observable effects concentration (NOEC, see definitions) of the effluent. In addition, one dilution will be used that corresponds with the dilution necessary to show compliance with the permit limit. Salinity adjustment shall be used, if appropriate. For

compliance purposes, test results shall be reported in chronic toxic units ( $TU_c$ , see definitions).

- d. In addition to reporting  $TU_c$ , the Permittee shall report the NOEC and the  $EC_{50}$  (see definitions) of the effluent in control water.
- e. All reporting, quality assurance criteria and statistical analyses used for chronic tests shall be in accordance with Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms EPA/600/4-87/028 and individual test protocols. The report of results shall include all relevant information outlined in Section 10, Report Preparation, of this EPA document.

### 3. Both Types of Toxicity Tests

Paragraphs a - g, below apply to all toxicity tests described in sections 1. and 2. of this Part of the permit.

- a. Testing shall be conducted on 24-hour composite samples of effluent. Each sample collected shall be large enough to provide enough effluent to conduct the toxicity tests, as well as required chemical testing.
- b. To the extent possible, the Permittee shall conduct acute and chronic testing on split samples of effluent.
- c. Dilution water for marine tests shall be high quality natural seawater. Artificial sea salts or concentrated brine may be used if the lab can achieve reliable results when conducting the specified test with the chosen medium.
- d. Any tests that fail the criteria for control response as specified in the respective protocols shall be repeated on a freshly collected sample.
- f. The Permittee shall submit the results of the toxicity tests in TUs with within 60 days of the sampling event. Sampling information shall be mailed to same address to which monthly DMRs are sent. Along with the results, the Permittee shall include: (1) the dates of sample collection and initiation of each toxicity test; (2) general activities within the drydocks and weather conditions at the time of sampling; and (3) the flow rate (whether measured or estimated) at the time of sample collection.
- g. If EPA determines that any of the toxicity tests are inadequate for evaluating the Permittee's effluent, EPA may substitute alternative tests that will provide the required toxicity information.

# E. Sediment Monitoring

The permittee shall submit to EPA, Region 10, Water Division results of future sediment monitoring conducted as required by Washington Department of Ecology, Toxic Cleanup Program and EPA's Superfund Program. Sediment monitoring information available from each preceding calendar year shall be submitted by May 15, annually.

Monitoring conducted to date and additional monitoring proposed for the future are anticipated to adequately address sediment quality concerns during the five year life of this permit. However, this permit may be reopened and modified to established effluent limitations and/or monitoring requirements if determined necessary to protect water or sediment quality from being degraded by discharges from the shipyard.

# F. Stormwater Monitoring

Stormwater discharges from outfalls 002, 003, 006, 010, 012, 013, 014, 028, 022, 025, 030, 040 and 052 (052 was formerly designated 007b) shall be monitored according to the following requirements:

1. Sample analyses of stormwater discharges listed below shall be conducted for the following pollutants:

<u>Outfall(s)</u>	<u>Conventional Pollutants 1/</u>	<u>Metals 2/</u>	<u>Total petroleum Hydrocarbons 3/</u>	<u>Cyanide</u>	<u>Semi-Volatile Organics 4/</u>
002, 012, 014, 025 and 040	X	X	X		
010 and 030		X		X	
003, 006, 013 028 and 052	X	X	X		X
022	X		X		

2. Permittee shall collect "grab" samples of the discharges. As logistics allow, the permittee shall attempt to collect samples within the first 30 minutes of storm event.
3. Samples shall be collected at each of the identified outfalls for two years according to the following sampling schedule:
  - a. During or immediately after a significant rainfall event 5/ after September 1, and
  - b. During or immediately after a significant rainfall event after March 1 and before April 30, and
  - c. During the month of August when no measurable precipitation has occurred within 48 hours.

4. Sampling results shall be submitted within 60 days of sample collection. Outfalls not discharging during the specified sampling periods shall be identified accordingly in the sampling report.
5. This permit may be modified to require additional monitoring or to establish effluent limitations based upon the information determined from the stormwater sampling.
6. The permittee may discontinue stormwater monitoring at individual outfalls for any parameter which has been determined to be nondetectable (at CRDLs) after the first three sampling events.
7. For each sampling event, the permittee shall provide the following information: The flow measurements or estimates of the flow rate, and the total amount of discharge for the storm event sampled, and the method of flow measurement or estimation. The date and duration (in hours) of the storm event (in inches) which generated the sampled runoff and the duration between the storm event sampled and the end of the previous measurable storm event.

1/ Conventional pollutants, for purposes of stormwater monitoring, shall include the five day biochemical oxygen demand (BOD<sub>5</sub>), total suspended solids (TSS), chemical oxygen demand and pH.

2/ Metals, for purposes of stormwater monitoring, shall included arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc. Metal analyses (including cyanide) shall determine total recoverable concentrations at CRDLs (see definitions).

3/ Total petroleum hydrocarbons (TPH) shall be determined using EPA method 600/4-79-020. The permittee shall conduct additional analyses on any sample which exceeds 10 mg/l using Washington Department of Ecology method WTPH 418.1 modified. Result of this analyses shall be submitted with the TPH data.

4/ Semi-volatile organics are those substances listed under 40 CFR 122 Appendix D Table II, Acid Compounds, Base/Neutral and Pesticides.

5/ A significant rainfall event (storm) is defined for this permit as:

- 1) depth of storm equals 0.1 inch of rain or greater,
- 2) storm should be preceded by 72 hours of dry weather, and
- 3) the variance in the duration of the event and the total rainfall of the event should not exceed 50% from the average of the area's median rainfall event.

#### G. Definitions

1. Acute Toxic Unit (TU<sub>A</sub>) is a measure of acute toxicity. The number of acute toxic units in the effluent is calculated as  $100/LC_{50}$  where the  $LC_{50}$  is measured in percent effluent.
2. Administrator means the Administrator of the USEPA, or an authorized representative.
3. Bypass means the intentional diversion of waste streams from any portion of a treatment facility.

4. Chronic Toxic Unit ( $TU_c$ ) is a measure of chronic toxicity. The number of chronic toxic units in the effluent is calculated as  $100/NOEC$  where the  $NOEC$  is measured in percent effluent.
5. Daily discharge means the discharge of a pollutant during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the daily discharge is the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in concentration, rates, or other units, the daily discharge is the average measurement of the pollutant over the day.
6. Daily maximum. See Maximum daily discharge.
7.  $EC_{50}$  is a point estimate of the effluent concentration that would cause an observable adverse effect (such as death, immobilization, or serious incapacitation) in 50 percent of the test organisms exposed.
8. Final effluent means effluent at, or upstream from the point where a permitted outfall enters navigable waters, and through which all waste streams pass that are discharged from the outfall.
9. Grab sample is a single sample or measurement taken at a specific time or over as short a period of time as is feasible. See Part III.F. (Representative Sampling).
10.  $LC_{50}$  means the concentration of effluent that is acutely toxic to 50 percent of the test organisms exposed.
11. Maximum daily discharge limitation or daily maximum means the highest allowable daily discharge.
12. Monthly average discharge means the average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.
13.  $NOEC$  means no observable effect concentration. The  $NOEC$  is the highest tested concentration of an effluent at which no adverse effects are observed on the test organisms at a specific time of observation.
14. Regional Administrator means the EPA Region 10 Regional Administrator, or an authorized representative.
15. Severe property damage means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
16. 24-hour composite sample shall mean a flow-proportioned mixture of not less than 8 discrete aliquots. Each aliquot shall be a grab

sample of not less than 100 ml and shall be collected and stored in accordance with procedures prescribed in the most recent edition of Standard Methods for the Examination of Water and Wastewater.

17. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
18. Waste stream means any non-deminimus source of pollutants within the Permittee's facility that enters any permitted outfall or navigable waters. This includes spills and other unintentional, non-routine or unanticipated discharges.
19. Contract Required Detection Levels (CRDLs) means the analytical level of detection EPA contract laboratories are required to attain and are considered the lowest level for quantitative decisions based upon individual sample measurements. Required detection levels and associated analytical methodologies for metals are identified in permit Part 1.A.e.
20. Significant materials include but are not limited to: raw materials: fuels; materials such as solvents; detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous materials designated under section 101 (14) of CERCLA; any chemical at or above threshold levels pursuant to EPCRA which have the potential to be released with storm water.
21. Significant spills (applicable to the stormwater requirements of this permit) includes, but is not limited to releases of oil or hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (see 40 CFR 110.10 and 40 CFR 117.21) or section 102 of CERCLA (see 40 CFR 302.4).
22. Section 313 water priority chemical means a chemical or chemical categories which: 1) are listed at 40 CFR 372.65 pursuant to section 313 of the Emergency Planning and Community Right to Know Act (EPCRA); 2) Are present at a facility, at or above the following threshold amounts: (i) 25,000 pounds of the chemical processed or manufactured for the year, (ii) 10,000 pounds of the chemical otherwise used at a facility for the applicable year; 3) that meet one of the following criteria (i) are listed in Appendix D of 40 CFR 122 on either table II, Table III, or Table IV; (ii) are listed as a hazardous substance pursuant to section 311(b)(2)(A) of the CWA at 40 CFR 116.4; or (iii) are pollutants for which EPA has published acute or chronic water quality criteria. A list of 313 water priority chemical are attached to the fact sheet for this permit.

## II. BEST MANAGEMENT PRACTICES (BMPs)

### A. Purpose

The permittee shall during the term of this permit operate the facility in accordance with BMPs which prevents or minimizes the generation of pollutants, their release, and potential release to waters of the United States through normal operation and ancillary activities.

The permittee, shall develop and implement a Best Management Practices (BMP) Plan which achieves the objectives and the specific requirements listed below. A copy of the Plan shall be submitted to EPA for review within three months of the effective date of the permit. EPA shall have the right to disapprove the BMP Plan within 60 days of receipt, after which the Plan shall be deemed approved, unless EPA disapproves of the submittal. The Plan shall be implemented as soon as possible but no later than twelve months from the effective date of the permit.

The permittee shall ensure that BMPs developed specifically for PSNS activities that are similar to commercial shipyard operations are equivalent (in terms of environmental protection) to BMPs developed by Washington Department of Ecology for commercial shipyard operations and identified as Best Management Practices for Drydock, Vessel, and Yard Operations and Maintenance.

### B. Objectives

The permittee shall develop (or amend existing) BMPs to be consistent with the following objectives for the control of pollutants.

1. The number and quantity of pollutants and the toxicity of effluent generated, discharged or potentially discharged at the facility minimized by the permittee to the extent feasible by managing each waste stream in the most appropriate manner.
2. Under the BMP Plan, and any SOPs included in the Plan, the permittee shall ensure proper operation and maintenance of any treatment facility.
3. The permittee shall establish specific objectives for the control of pollutants by conducting the following evaluations:
  - a. Each facility component or system shall be examined for its waste minimization opportunities and its potential for causing a release of significant amounts of pollutants to waters of the United States due to equipment failure, improper operation, natural phenomena such as rain or snowfall, etc. The examination shall include all normal operations and ancillary activities including material storage and handling areas, plant site runoff (see condition), loading or unloading operations, and spillage or leaks.
  - b. Where experience indicates a reasonable potential for equipment failure (e.g., a tank overflow or leakage), natural condition (e.g., precipitation), or other circumstances to result in significant amounts of pollutants reaching surface waters, the

program should include a prediction of the direction, rate of flow and total quantity of pollutants which could be discharged from the facility as a result of each condition or circumstance.

C. Requirements.

The BMP Plan shall be consistent with the objectives in Part B above and the general guidance contained in the publication entitled "Best Management Practices Guidance Document" (U.S. EPA, 1981) or any subsequent revisions to the guidance document. The BMP Plan shall:

1. Be documented in narrative form, and shall include any necessary plot plans, drawings or maps, and shall be developed in accordance with good engineering practices. The BMP Plan shall be organized and written with the following structure:
  - a. Name and location of the facility.
  - b. Statement of BMP policy.
  - c. Structure, functions, and procedures of the Best Management Practices Committee.
  - d. Specific management practices and standard operating procedures to achieve the above objectives, including, but not limited to, the following:
    - (1) modification of equipment, facilities, technology, processes, and procedures,
    - (2) reformulation or redesign of products,
    - (3) substitution of materials, and
    - (4) improvement in management, inventory control, materials handling or general operational phases of the facility.
  - e. Risk identification and assessment.
  - f. Reporting of BMP incidents.
  - g. Materials compatibility.
  - h. Good housekeeping.
  - i. Preventive maintenance.
  - j. Inspections and records.
  - k. Security.
  - l. Employee training.
2. Include the following provisions concerning BMP Plan review:

- a. Be reviewed by appropriate staff and the Shipyard Commander.
  - b. Be reviewed and endorsed by the permittee's BMP Committee.
  - c. Include a statement that the above reviews have been completed and that the BMP Plan fulfills the requirements set forth in this permit. The statement shall be certified by the dated signatures of each BMP Committee member.
3. Establish specific best management practices to meet the objectives identified in Part II.B.3. of this permit, addressing each component or system capable of generating or causing a release of significant amounts of pollutants, and identifying specific preventative or remedial measures to be implemented.
  4. Establish specific best management practices or other measures which ensure that the following specific requirements are met:
    - a. Ensure proper management of solid and hazardous waste in accordance with regulations promulgated under the Resource Conservation and Recovery Act (RCRA). Management practices required under RCRA regulations shall be referenced in the BMP Plan.
    - b. Reflect requirements for Spill Prevention, Control, and Countermeasure (SPCC) plans under Section 311 of the Act and 40 CFR Part 112, and may incorporate any part of such plans into the BMP Plan by reference.
    - c. Reflect requirements for storm water control under Section 402(p) of the Act and the regulations at 40 CFR 122.26 and 122.44, and otherwise eliminate to the extent practicable, contamination of storm water runoff.

D. Documentation.

The permittee shall maintain a copy of BMP Plan at the facility and shall make these documents available to EPA upon request. All offices of the permittee which are required to maintain a copy of the NPDES permit shall also maintain a copy of the BMP Plan.

E. BMP Plan Modification.

The permittee shall amend the BMP Plan whenever there is a change in the facility or in the operation of the facility which materially increases the generation of pollutants or their release or potential release to the receiving waters. The permittee shall also amend the Plan, as appropriate, when plant operations covered by the BMP Plan change. Any such changes to the BMP Plan shall be consistent with the objectives and specific requirements listed above. All changes in the BMP Plan shall be reviewed by the plant engineering staff and facility supervisor and shall be reported to EPA in writing. Such changes are deemed approved if EPA submits no comments or objections to the permittee within 60 days of receipt of the revised BMP Plan.

F. Modification for Ineffectiveness.

At any time, if the BMP Plan proves to be ineffective in achieving the general objective of preventing and minimizing the generation of pollutants and their release and potential release to the receiving waters and/or the specific requirements above, the permit and/or the BMP Plan shall be subject to modification to incorporate revised BMP requirements.

### III. STORM WATER POLLUTION PREVENTION PLANS

A storm water pollution prevention plan shall be developed for the entire facility covered by this permit. Storm water pollution prevention plans shall be prepared in accordance with good engineering practices. The plan shall identify potential sources of pollution which may reasonably be expected to affect the quality of storm water discharges associated with industrial activity from the facility. In addition, the plan shall describe and ensure the implementation of practices which are to be used to reduce the pollutants in storm water discharges associated with industrial activity at the facility and to assure compliance with the terms and conditions of this permit. Facilities must implement the provisions of the storm water pollution prevention plan required under this part as a condition of this permit.

Coverage of this facility under any general or group permit issued for stormwater discharges shall be terminated upon issuance of this permit.

#### A. Deadlines for Plan Preparation and Compliance.

The plan for a storm water discharge associated with industrial activity shall be prepared and shall provide for implementation and compliance with the terms of the plan within twelve months of permit issuance. The plan shall contain a schedule for completion of stormwater related construction activities which extend beyond this implementation period.

#### B. Signature and Plan Review

1. The plan shall be signed and be retained on-site as part of the Puget Sound Naval Shipyard BMP Plan.
2. The permittee shall make plans available upon request to the Director, or authorized representative.
3. The Director, or authorized representative, may notify the permittee at any time that the plan does not meet one or more of the minimum requirements of this Part. Within 30 days of such notification from the Director, (or as otherwise provided by the Director), or authorized representative, the permittee shall make the required changes to the plan and shall submit to the Director a written certification that the requested changes have been made. The permittee may request additional time to comply with such requests from the Director if circumstances are present which present a significant obstacle to compliance within the designated time frame.

C. Keeping Plans Current.

The permittee shall amend the plan whenever there is a change in design, construction, operation, or maintenance, which has a significant effect on the potential for the discharge of pollutants to the waters of the United States or if the storm water pollution prevention plan proves to be ineffective in eliminating or significantly minimizing pollutants from sources identified under Part III.D.2 (description of potential pollutant sources) of this permit, or in otherwise achieving the general objectives of controlling pollutants in storm water discharges associated with industrial activity. Amendments to the plan may be reviewed by EPA in the same manner as Part III.B (above).

D. Contents of Plan

The plan shall include, at a minimum, the following items:

1. Pollution Prevention Team

The plan shall identify positions within the facility organization as members of a storm water Pollution Prevention Team that are responsible for developing the storm water pollution prevention plan and assisting facility supervisors in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

2. Description of Potential Pollutant Sources

Each plan shall provide a description of potential sources which may reasonably be expected to add significant amounts of pollutants to storm water discharges or which may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all activities and significant materials which may potentially be significant pollutant sources. Each plan shall include, at a minimum:

a. Drainage

- (1) A site map indicating an outline of the portions of the drainage area of each storm water outfall that are within the facility boundaries, each existing structural control measure to reduce pollutants in storm water runoff, surface water bodies, locations where significant materials are exposed to precipitation, locations where major spills or leaks identified under Part III.D.2.c (spills and leaks) of this permit have occurred, and the locations of the following activities where such activities are exposed to precipitation: fueling stations, vehicle and equipment maintenance and/or cleaning areas, loading/unloading areas, locations used for the treatment, storage or disposal of wastes, liquid storage tanks, processing areas and storage areas.

- (2) For each area of the facility that generates storm water discharges associated with industrial activity with a reasonable potential for containing significant amounts of pollutants, a prediction of the direction of flow, and an identification of the types of pollutants which are likely to be present in storm water discharges associated with industrial activity. Factors to consider include the toxicity of chemical; quantity of chemicals used, produced or discharged; the likelihood of contact with storm water; and history of significant leaks or spills of toxic or hazardous pollutants. Flows with a significant potential for causing erosion shall be identified.

b. Inventory of Exposed Materials

An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of three years prior to the date of the issuance of this permit and the present; method and location of on-site storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff between the time of three years prior to the date of the issuance of this permit and the present; the location and a description of existing structural and non-structural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives.

c. Spills and Leaks

A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility after the date of three years prior to the effective date of this permit. Such list shall be updated as appropriate during the term of the permit.

d. Sampling Data

A summary of existing discharge sampling data describing pollutants in storm water discharges from the facility, including a summary of sampling data collected during the term of this permit.

e. Risk Identification and Summary of Potential Pollutant Sources

A narrative description of the potential pollutant sources at the following areas: loading and unloading operations; outdoor storage activities; outdoor manufacturing or processing activities; significant dust or particulate generating processes; and on-site waste disposal practices. The description shall specifically list any significant potential source of pollutants at the site and for each potential source, any pollutant or pollutant parameter (e.g. biochemical oxygen demand, etc.) of concerns shall be identified.

3. Measures and Controls

The permittee shall develop a description of storm water management controls appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following minimum components, including a schedule for implementing such controls:

a. Good Housekeeping

Good housekeeping requires the maintenance of areas which may contribute pollutants to storm water discharges in a clean, orderly manner.

b. Preventive Maintenance

A preventive maintenance program shall involve timely inspection and maintenance of storm water management devices (e.g. cleaning oil/water separators, catch basins) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems.

c. Spill Prevention and Response Procedures

Areas where potential spills which can contribute pollutants to storm water discharges can occur, and their accompanying drainage points shall be identified clearly in the storm water pollution prevention plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a clean up should be available to personnel.

d. Inspections

In addition to or as part of the comprehensive site evaluation required under Part III.4 (comprehensive site compliance evaluation) of this permit, qualified facility personnel shall be identified to inspect designated equipment and areas of the facility at appropriate intervals specified in the plan. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained.

e. Employee Training

Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm

water management at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics such as spill response, good housekeeping and material management practices. A pollution prevention plan shall identify periodic dates for such training.

f. Record-keeping and Internal Reporting Procedures

A description of incidents such as spills that enter receiving waters via storm drainage, along with other information describing the quality and quantity of pollutants entering storm water discharges shall be included in the plan required under this part. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan.

g. Non-Storm Water Discharges

The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges not addressed in this permit. The certification shall include the identification of potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the on-site drainage points that were directly observed during the test. Such certification may not be feasible if the facility operating the storm water discharge associated with industrial activity does not have access to an outfall, manhole, or other point of access to the ultimate conduit which receives the discharge. In such cases, the source identification section of the storm water pollution plan shall indicate why the certification required by this part was not feasible, along with the identification of potential significant sources of non-storm water at the site.

Except for flows from fire fighting activities, sources of non-storm water listed above that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

The following non-storm water discharges may be authorized by this permit: discharges from fire fighting activities; fire hydrant flushings; potable water sources including waterline flushings; irrigation drainage; lawn watering; routine external building washdown which does not use detergents or other compounds; pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled materials have been removed) and where detergents are not used; air conditioning condensate; springs; uncontaminated ground water; and foundation or footing drains where flows are not contaminated with process materials such as solvents.

h. Sediment and Erosion Control

The plan shall identify areas which, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion.

i. Management of Runoff

The plan shall contain a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those which control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide that measures determined to be reasonable and appropriate shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity (see Parts III.D.2. (description of potential pollutant sources) of this permit) shall be considered when determining reasonable and appropriate measures. Appropriate measures may include: vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, and wet detention/retention devices.

4. Comprehensive Site Compliance Evaluation.

Qualified personnel shall conduct site compliance evaluations at appropriate intervals specified in the plan, but, in no case less than once a year. Quarterly evaluations are recommended. Such evaluations shall provide:

- a. Areas contributing to a storm water discharge associated with industrial activity shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.
- b. Based on the results of the inspection, the description of potential pollutant sources identified in the plan in accordance with Part III.D.2 (description of potential pollutant sources) of this permit and pollution prevention measures and controls identified in the plan in accordance with paragraph III.D.3 (measures and controls) of this permit shall be revised as appropriate within two weeks of such inspection

and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than twelve weeks after the inspection.

- c. A report summarizing the scope of the inspection, personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph III.D.4.b (above) of the permit shall be made and retained as part of the storm water pollution prevention plan for at least one year after coverage under this permit terminates. The report shall be signed by the senior executive officer responsible for overall environmental control.

5. Consistency with other plans

Storm water pollution prevention plans may reflect requirements for Spill Prevention Control and Countermeasure (SPCC) plans developed for the facility under section 311 of the CWA or Best Management Practices (BMP) Programs otherwise required by an NPDES permit for the facility as long as such requirement is incorporated into the storm water pollution prevention plan.

6. Requirements for storm water discharges associated with Section 313 Water Priority Chemicals.

Storm water pollution prevention plans shall describe and ensure the implementation of practices which are necessary to provide for conformance with the following guidelines:

- a. In areas where Section 313 water priority chemicals are stored, processed or otherwise handled, appropriate containment, drainage control and/or diversionary structures shall be provided. At a minimum, one of the following preventive systems or its equivalent shall be used: (1) Curbing, culverting, gutters, sewers or other forms of drainage control to prevent or minimize the potential for storm water run-on to come into contact with significant sources of pollutants; or (2) Roofs, covers or other forms of appropriate protection to prevent storage piles from exposure to storm water, and wind.
- b. In addition to the minimum standards listed under Part III.D.6.a (above) of this permit, the storm water pollution prevention plan shall include a complete discussion of measures taken to conform with the following applicable guidelines, other effective storm water pollution prevention procedures, and applicable State rules, regulations and guidelines:

- (1) Liquid storage areas where storm water comes into contact with any equipment, tank, container, or other vessel used for Section 313 water priority chemicals.

- (a) No tank or container shall be used for the storage of a Section 313 water priority chemical unless its material and construction are compatible with the

material stored and conditions of storage such as pressure and temperature, etc.

- (b) Liquid storage areas for Section 313 water priority chemicals shall be operated to minimize discharges of Section 313 chemicals. Appropriate measures to minimize discharges of Section 313 chemicals may include secondary containment provided for at least the entire contents of the largest single tank plus sufficient freeboard to allow for precipitation, a strong spill contingency and integrity testing plan, and/or other equivalent measures.
- (2) Material storage areas for Section 313 water priority chemicals other than liquids. Material storage areas for Section 313 water priority chemicals other than liquids which are subject to runoff, leaching, or wind shall incorporate drainage or other control features which will minimize the discharge of Section 313 water priority chemicals by reducing storm water contact with Section 313 water priority chemicals.
- (3) Truck and rail car loading and unloading areas for liquid Section 313 water priority chemicals. Truck and rail car loading and unloading areas for liquid Section 313 water priority chemicals shall be operated to minimize discharges of Section 313 water priority chemicals. Appropriate measures to minimize discharges of Section 313 chemicals may include: the placement and maintenance of drip pans (including the proper disposal of materials collected in the drip pans) where spillage may occur (such as hose connections, hose reels and filler nozzles) for use when making and breaking hose connections; a strong spill contingency and integrity testing plan; and/or other equivalent measures.
- (4) Areas where Section 313 water priority chemicals are transferred, processed or otherwise handled. Processing equipment and materials handling equipment shall be operated so as to minimize discharges of Section 313 water priority chemicals. Materials used in piping and equipment shall be compatible with the substances handled. Drainage from process and materials handling areas shall minimize storm water contact with section 313 water priority chemicals. Additional protection such as covers or guards to prevent exposure to wind, spraying or releases from pressure relief vents from causing a discharge of Section 313 water priority chemicals to the drainage system, and overhangs or door skirts to enclose trailer ends at truck loading/unloading docks shall be provided as appropriate. Visual inspections or leak tests shall be provided for overhead piping conveying Section 313 water priority chemicals without secondary containment.

(5) Discharges from areas covered by paragraphs (1), (2), (3) or (4).

- (a) Drainage from areas covered by paragraphs (1), (2), (3) or (4) of this part should be restrained by valves or other positive means to prevent the discharge of a spill or other excessive leakage of Section 313 water priority chemicals. Where containment units are employed, such units may be emptied by pumps or ejectors; however, these shall be manually activated.
- (b) Flapper-type drain valves shall not be used to drain containment areas. Valves used for the drainage of containment areas should, as far as is practical, be of manual, open-and-closed design.
- (c) If facility drainage is not engineered as above, the final discharge of all in-facility storm sewers shall be equipped to be equivalent with a diversion system that could, in the event of an uncontrolled spill of Section 313 water priority chemicals, return the spilled material to the facility.
- (d) Records shall be kept of the frequency and estimated volume (in gallons) of discharges from containment areas.

(6) Facility site runoff other than from areas covered by (1), (2), (3) or (4).

Other areas of the facility (those not addressed in paragraphs (1), (2), (3) or (4)), from which runoff which may contain Section 313 water priority chemicals or spills of Section 313 water priority chemicals could cause a discharge shall incorporate the necessary drainage or other control features to prevent discharge of spilled or improperly disposed material and ensure the mitigation of pollutants in runoff or leachate.

(7) Preventive maintenance and housekeeping.

All areas of the facility shall be inspected at specific intervals identified in the plan for leaks or conditions that could lead to discharges of Section 313 water priority chemicals or direct contact of storm water with raw materials, intermediate materials, waste materials or products. In particular, facility piping, pumps, storage tanks and bins, pressure vessels, process and material handling equipment, and material bulk storage areas shall be examined for any conditions or failures which could cause a discharge. Inspection shall include examination for leaks, wind blowing, corrosion, support or foundation failure, or other forms of deterioration or noncontainment. Inspection intervals shall be specified in the plan and shall be based on design and operational

experience. Different areas may require different inspection intervals. Where a leak or other condition is discovered which may result in significant releases of Section 313 water priority chemicals to the drainage system, corrective action shall be immediately taken or the unit or process shut down until corrective action can be taken. When a leak or noncontainment of a Section 313 water priority chemical has occurred, contaminated soil, debris, or other material must be promptly removed and disposed in accordance with Federal, State, and local requirements and as described in the plan.

(8) Facility security.

Facilities shall have the necessary security systems to prevent accidental or intentional entry which could cause a discharge. Facility systems described in the plan shall address fencing, lighting, vehicular traffic control, and securing of equipment and buildings.

(9) Training.

Facility employees and contractor personnel that work in areas where SARA Title III, Section 313 water priority chemicals are used or stored shall be trained in and informed of preventive measures at the facility. Employee training shall be conducted at intervals specified in the plan, but not less than once per year, in matters of pollution control laws and regulations, and in the storm water pollution prevention plan and the particular features of the facility and its operation which are designed to minimize discharges of Section 313 water priority chemicals. The plan shall designate a person who is accountable for spill prevention at the facility and who will set up the necessary spill emergency procedures and reporting requirements so that spills and emergency releases of Section 313 water priority chemicals can be isolated and contained before a discharge of a Section 313 water priority chemical can occur. Contractor or temporary personnel shall be informed of facility operation and design features in order to prevent discharges or spills from occurring.

(10) Engineering Certification

The storm water pollution prevention plan for a facility subject to SARA Title III, Section 313 requirements for chemicals which are classified as 'Section 313 water priority chemicals' shall be reviewed by a Registered Professional Engineer and certified to by such Professional Engineer. A Registered Professional Engineer shall recertify the plan every three years thereafter or as soon as practicable after significant modification are made to the facility. By means of these certifications the engineer, having examined the facility and being familiar with the provisions of this part, shall attest

that the storm water pollution prevention plan has been prepared in accordance with good engineering practices. Such certifications shall in no way relieve the permittee of their duty to prepare and fully implement such plan.

#### IV. MONITORING, RECORDING AND REPORTING REQUIREMENTS

##### A. Representative Sampling.

Samples taken in compliance with the monitoring requirements established under Part I shall be collected from the effluent stream prior to discharge into the receiving waters. Samples and measurements shall be representative of the volume and nature of the monitored discharge.

##### B. Monitoring Procedures.

Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.

##### C. Reporting of Monitoring Results.

Monitoring results shall be summarized each month on the Discharge Monitoring Report (DMR) form (EPA No. 3320-1). The reports shall be submitted monthly and are to be postmarked by the 10th day of the following month. Toxicity test results shall be submitted according to part 1.B.3.f., above. Legible copies of these, and all other reports, shall be signed and certified in accordance with the requirements of Part IV.H. Signatory Requirements, and submitted to the Director, Water Division and the State agency at the following addresses:

original to:

United States Environmental Protection Agency (EPA) Region 10  
1200 Sixth Avenue, WD-135  
Seattle, Washington 98101

copy to:

Washington Department of Ecology, NWRO  
Water Quality Section  
Mail Stop NB-81  
3190 - 160th Avenue SE  
Bellevue, Washington 98008-5452

##### D. Additional Monitoring by the Permittee.

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR. Such increased frequency shall also be indicated.

E. Records Contents.

Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements;
2. The individual(s) who performed the sampling or measurements;
3. The date(s) analyses were performed;
4. The individual(s) who performed the analyses;
5. The analytical techniques or methods used; and
6. The results of such analyses.

F. Retention of Records

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time. Data collected on-site, copies of Discharge Monitoring Reports, and a copy of this NPDES permit must be maintained on-site during the duration of activity at the permitted location.

G. Twenty-four Hour Notice of Noncompliance Reporting.

1. The following occurrences of noncompliance shall be reported by telephone within 24 hours from the time the permittee becomes aware of the following circumstances:
  - a. Any unanticipated bypass which exceeds any effluent limitation in the permit;
  - b. Any upset which exceeds any effluent limitation in the permit; or;
  - c. Significant spills (see definitions) into receiving waters of the following materials:
    1. 100 gallons or more of domestic wastewater (sewage).
    2. Any substance in excess of a reportable quantity as listed in 40 CFR 117.
    3. Any substance that is classified, or could reasonably be expected to classify, as hazardous waste as required by WAC 173-303-145.
2. A written submission shall also be provided within five days of the time that the permittee becomes aware of the circumstances requiring 24-hour notification per part IV.G.1. The written submission shall contain:
  - a. A description of the noncompliance and its cause;
  - b. The period of noncompliance, including exact dates and times;

- c. The estimated time noncompliance is expected to continue if it has not been corrected; and
  - d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
3. The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the Water Compliance Section in Seattle, Washington, (206) 553-1213 or Washington Operations Office (206) 753-9437.

Telephone notification shall also be provided to the Bremerton-Kitsap County Health District and the Suquamish Tribe of spills of materials addressed under part IV.G.1.d.

4. Reports shall be submitted to the addresses in Part IV.C., Reporting of Monitoring Results.

H. Other Noncompliance Reporting

Instances of noncompliance not required to be reported within 24 hours per part IV G.1. shall be reported at the time that monthly discharge monitoring reports are submitted per part IV.C. The reports shall contain the information listed in Part IV.G.2.

I. Inspection and Entry

The permittee shall allow the Director, or an authorized representative (including an authorized contractor acting as a representative of the Administrator), upon the presentation of credentials and other documents as may be required by law, to:

- 1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- 2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- 3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- 4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the Act, any substances or parameters at any location.

J. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on interim and final requirements contained in any Compliance Schedule of this permit shall be submitted no later than 10 days following each schedule date.

## V. COMPLIANCE RESPONSIBILITIES

### A. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

### B. Penalties for Violations of Permit Conditions.

1. **Civil Penalty.** The Act provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act shall be subject to a civil penalty, not to exceed \$25,000 per day for each violation.
2. **Criminal Penalties:**
  - a. **Negligent Violations.** The Act provides that any person who negligently violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act shall be punished by a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment for not more than 1 year, or by both.
  - b. **Knowing Violations.** The Act provides that any person who knowingly violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act shall be punished by a fine of not less than \$5,000 nor more than \$50,000 per day of violation, or by imprisonment for not more than 3 years, or by both.
  - c. **Knowing Endangerment.** The Act provides that any person who knowingly violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000 or imprisonment of not more than 15 years, or both. A person which is an organization shall, upon conviction of violating this subparagraph, be subject to a fine of not more than \$1,000,000.
  - d. **False Statements.** The Act provides that any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under this Act or who knowingly falsifies, tampers with, or renders inaccurate any monitoring device or method required to be maintained under this Act, shall upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or by both.

Except as provided in permit conditions in Part V.G., Bypass of Treatment Facilities and Part V.H., Upset Conditions, nothing in this permit shall be construed to relieve the permittee of the civil or criminal penalties for noncompliance.

C. Need to Halt or Reduce Activity not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

D. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

E. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

F. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters.

G. Bypass of Treatment Facilities:

1. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 2 and 3 of this section.
2. Notice:
  - a. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass.
  - b. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required under Part IV.G., Twenty-four Hour Notice of Noncompliance Reporting.

3. Prohibition of bypass.

- a. Bypass is prohibited and the Director may take enforcement action against a permittee for a bypass, unless:
  - (1) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
  - (2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
  - (3) The permittee submitted notices as required under paragraph 2 of this section.
- b. The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph 3.a. of this section.

H. Upset Conditions.

- 1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph 2 of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
- 2. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
  - a. An upset occurred and that the permittee can identify the cause(s) of the upset;
  - b. The permitted facility was at the time being properly operated;
  - c. The permittee submitted notice of the upset as required under Part IV.G., Twenty-four Hour Notice of Noncompliance Reporting; and
  - d. The permittee complied with any remedial measures required under Part V.D., Duty to Mitigate.
- 3. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

I. Toxic Pollutants

The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

VI. GENERAL REQUIREMENTS

A. Changes in Discharge of Toxic Substances. Notification shall be provided to the Director as soon as the permittee knows of, or has reason to believe:

1. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
  - a. One hundred micrograms per liter (100 ug/l);
  - b. Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
  - c. Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
  - d. The level established by the Director in accordance with 40 CFR 122.44(f).
2. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
  - a. Five hundred micrograms per liter (500 ug/l);
  - b. One milligram per liter (1 mg/l) for antimony;
  - c. Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
  - d. The level established by the Director in accordance with 40 CFR 122.44(f).

B. Planned Changes The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source as determined in 40 CFR 122.29(b); or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under Part IV.A.1.
- C. Anticipated Noncompliance. The permittee shall also give advance notice of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
  - D. Permit Actions. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
  - E. Duty to Reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The application should be submitted at least 180 days before the expiration date of this permit.
  - F. Duty to Provide Information. The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.
  - G. Other Information. When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Director, it shall promptly submit such facts or information.
  - H. Signatory Requirements. All applications, reports or information submitted to the Director shall be signed and certified.
    1. All permit applications shall be signed as follows:
      - a. For a corporation: by a responsible corporate officer.
      - b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively.
      - c. For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official.
    2. All reports required by the permit and other information requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
      - a. The authorization is made in writing by a person described above and submitted to the Director.

- b. The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)
3. Changes to authorization. If an authorization under paragraph IV.H.2. is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph IV.H.2. must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.
4. Certification. Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."
- I. Availability of Reports. Except for data determined to be confidential under 40 CFR Part 2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the State water pollution control agency and the Director. As required by the Act, permit applications, permits and effluent data shall not be considered confidential.
- J. Oil and Hazardous Substance Liability. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Act.
- K. Property Rights. The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.
- L. Severability. The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

M. Transfers. This permit may be automatically transferred to a new permittee if:

1. The current permittee notifies the Director at least 30 days in advance of the proposed transfer date;
2. The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and
3. The Director does not notify the existing permittee and the proposed new permittee of his or her intent to modify, or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph 2 above.

N. State Laws. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Act.

Technical Information  
Fact Sheet  
Public Notice July 23, 1993

A. APPLICANT

U.S. Department of Defense  
Department of the Navy  
Puget Sound Naval Shipyard  
Bremerton, Washington 98314

B. FACILITY LOCATION

The Puget Sound Naval Shipyard (PSNS) is located along the northern shore of Sinclair Inlet and is bounded by the City of Bremerton. Attachments to this document include a map of the shipyard and location of the discharge outfalls. Other attachments show details of drydock and steamplant discharges.

C. BACKGROUND: ACTIVITY AND DISCHARGE DESCRIPTION

The Puget Sound Naval Shipyard (PSNS) is engaged in shipyard activities which primarily involve servicing, repairing and decommissioning naval vessels. The shipyard has been in operation since 1896. Historically, discharges of wastewaters were directly into nearby waters without treatment (until 1957). Presently, direct discharges from PSNS into receiving waters which may contain pollutants include stormwater, noncontact cooling waters, drydock drainage, salt water supply system, bilge and ballast water from dockside vessels, and steam plant wastewaters. A more detailed description of general shipyard/boatyard activities, associated waste generation, and treatment technologies may be found in Maritime Industrial Waste Project Reduction of Toxicant Pollution from the Maritime Industry in Puget Sound (Seattle Metro 3/92).

Domestic wastewaters and pretreated electroplating wastewaters are routed to the City of Bremerton Wastewater Treatment Plant where they receive secondary treatment and disinfection prior to discharge. Existing discharges are described below:

1. Outfall 018: Drainage from Drydocks 1 through 5 have been discharged by pumps from drydock pumpwells #4 (discharge 018) or #5 (discharge 018A) into Sinclair Inlet. Operation of the pumpwells are alternated, typically monthly. The character of the discharge does not change with alternation of the pumpwells, therefore, the permit refers to outfall 018 for either discharge location. This discharge includes groundwater and marine waters that infiltrate or seep into the drydocks, in addition to surface runoff from within the drydocks. A relatively small volume (estimated at 18,750 GPD per drydock) of

noncontact cooling water is also discharged through this outfall.

In a letter dated July 12, 1993, the permittee indicated that the shipyard had commenced using Drydock 2 pumpwell for direct discharge (via outfall 096) to relieve loading on pumpwell #4.

Infiltration into each of the five docks, except drydock 2, is estimated at 712,500 GPD. By design there is no infiltration into drydock 2. Stormwater volumes are of course variable. Total discharge from this outfall is reported in the application as approximately 7,240,000 GPD (maximum daily) and 2,510,000 GPD (average daily). More recent information submitted by the permittee (letter dated July 12, 1993) states that the average discharge from outfall 018 or 018A during the past two years is approximately 2.8 mgd. All pollutants were reported on the permit application as "believed absent" except for the following parameters:

Biochemical Oxygen Demand (BOD)	60	mg/l
Chemical Oxygen Demand (COD)	*713	
Total Organic Carbon (TOC)	5.9	
Total Suspended Solids (TSS)	10	
Ammonia	0.305	
Oil and Grease	1	
pH	7.2 to 7.8	S.U.
Temperature	14.1°C (summer)	
	57.4°F	

\* The reported value of the COD test is questioned because of interferences caused by marine water on COD test methodology.

The discharge is through a 24 inch diameter pipe located just west of the opening to drydock #4 (depending upon which wetwell pump is being operated). The pipe depth (elevation) is minus 0.8 feet below mean low low water. The depth of water near the outfall(s) is approximately 42 feet.

During certain drydock flooding sequences, discharges of drydock drainage occur directly from drydock pumpwell 3 or 3a. These discharges are very infrequent and have a duration which typically does not exceed four or five hours.

2. Outfall 019: This outfall discharges groundwater infiltration (approximately 4,464,000 GPD), stormwater runoff, and noncontact cooling water (approximately 93,000 GPD) from drydock 6. Total discharge from this outfall was reported as 8,440,000 GPD (maximum daily) and 2,800,000 GPD (average daily). More recent information submitted by the permittee (letter dated July 12, 1993) states that the average discharge from outfall 019 had been misreported during the past five years and that the

actual volume of the discharge is approximately 50 percent greater than reported (estimated to be about 5.24 mgd). The application indicated all pollutants were "believed absent" except for the following parameters:

BOD	45	mg/l
COD	35.3	
TOC	16.7	
TSS	7.0	
Ammonia	8.49	
Oil and Grease	1	
pH	6.9	S.U.
Temperature	17.8°C	(summer)
	64.0°F	

This discharge is through a 36 inch diameter pipe located on the east side of the south end of drydock #6. The pipe depth is minus 5.17 feet at mean low low water. The depth of water near the outfall is approximately 43 feet.

3. Outfall 021: Wastewaters generated through the production of superheated steam include air compressor and diesel generator cooling tower blowdown, boiler blowdown, water treatment wastes, washdown drainage of coal handling facilities corrosive drains (e.g. acidic and caustic demineralizer for boiler feedwater), plant drains and demineralizer regeneration wastewater. Wastestreams which cannot be reused are treated prior to discharge using the following processes: oil-water separation, flow equalization, neutralization, chemical coagulation/flocculation, gravity filtration and final pH correction.

This discharge is through a 40 foot diffused port outfall. The 8 inch diameter outfall is located at a water depth of 37.4 feet mean low low water.

Effluent limitations, monitoring and reporting requirements were established for this discharge in the present permit according to federal effluent guidelines for the Steam Electric Generation Point Source Category (40 CFR 423). Discharge monitoring reports (DMRs) submitted by the permittee for discharge through outfall 021 showed the following summarized information for the period from January 1990 through December 1991:

<u>Parameter</u>	<u>Monthly Average</u>			<u>Daily Maximum</u>		
	<u>Limit</u>	<u>Reported</u>	<u>Range</u>	<u>Limit</u>	<u>Reported</u>	<u>Range</u>
Temp (°F)	70**	64	52 - 70	90	66	58 - 71
pH (S.U.)	-	6.6	-	6 to 9	-	4.0 - 9.1
TSS*	30	4.4	1 - 14.7	100	37.5	4.0 - 631
Oil & Grease*	10	3.3	(1.0 - 5.5	15	17.8	(1.0 - 198
Total Chromium*	0.2	0.1	(0.1 - 0.1	0.2	0.1	(0.1 - 0.2
Total Zinc*	1.0	0.4	(0.1 - 1.4	1.0	0.9	(0.1 - 2.0
Flow (MGD)	.109	.122	.038 - .155	-	-	-
Total Chlorine*	-	-	-	0.2	0.11	(0.1 - 1.17
Free Chlorine*	0.2	0.09	(0.1 - 0.09	0.5	0.10	(0.1 - 0.17

\* measurements and limitations expressed as mg/l

\*\* monthly avg. summer limit is 75°F

Note: The values listed under the "reported" columns represents an average of reported measurements during this period. The average of reported values for daily maximum Oil and Grease would be 4.3, instead of 17.8 mg/l, if two large values (180 mg/l from 11/90 and 198 mg/l from 10/91) are not included in this average.

Whole effluent toxicity monitoring (biomonitoring) of this discharge was also required per condition I.C.3. of the existing permit. Dilution provided by the diffused outfall of this relatively small discharge are designed to be 100:1 receiving water to discharge. This dilution and results of this toxicity monitoring (quarterly for one year) indicate that this discharge is not expected to have adverse impacts on water quality within the authorized mixing zone. Results of this toxicity monitoring testing are listed below:

<u>Test Organism</u>	<u>Test Endpoint</u>	<u>Test Results</u>	
Rainbow Trout	mortality	100% survival (96-hr)	
Freshwater Algae (Selenastrum Capricornutum)	cell density	1.5% to 13%	NOEC
		6.0% to 25%	LOEC
Daphnid (Ceriodaphnia Dubia)	Mortality	100%	NOEC
	Reproduction	12.5% to 100%	NOEC
	Reproduction	25% to 100%	LOEC

Stormwater runoff from the vicinity of the steam plant is discharged (via outfall 022) separately from process wastewaters. This discharge is monitored for pH, Oil & Grease, and flow according to permit requirements.

4. Stormwater Runoff: PSNS encompasses an area of approximately 992 dryland and 355 tideland acres which includes about 270 acres of impervious surfaces. These surfaces include buildings, roads and drydocks. Essentially all rainfall onto such surfaces runs off and drains into local receiving waters. Presently, stormwater is discharged from numerous outfalls, including most of the 96 outfalls enumerated by this permit (see Attachment 3). This runoff has the potential to carry pollutants common to urban runoff in addition to pollutants peculiar to general shipyard or PSNS specific activities. There are also concerns that rainfall runoff and groundwater infiltration from contaminated soils within PSNS may introduce pollutants into stormwater through the stormwater collection system.

The number, location and drainage areas of stormwater outfalls within PSNS are presently being evaluated by a contractor. Enumeration of the outfalls may be updated after completion of the contractor's study. Some drains located on the docks were not assigned numbers. It should be noted that some identified stormwater outfalls discharge only drainage from small areas which flow into single catchment basins. In contrast, some storm drains carry runoff from acres of paved surface area and discharge through 54 inch pipes. Discharges 014 and 025 are stormwater outfalls which originate within the City of Bremerton and discharge on the PSNS waterfront.

5. Sanitary Wastes: All sanitary wastewaters from the shipyard are routed to the City of Bremerton's Wastewater Treatment Plant (WWTP) for treatment prior to discharge into Sinclair Inlet. Nine pump (lift) stations are utilized to transport sanitary wastewaters to the city's collection system. The PSNS sanitary sewage collection system extends onto shipyard piers and drydocks to allow docked vessels to discharge shipboard wastewaters. This collection system includes pipes which are suspended under the piers. These pipes have occasionally broken or leaked wastewater directly into receiving waters. Replacement of this pipe to minimize unauthorized discharges is currently underway.

The City of Bremerton's collection system combines both stormwater and sanitary wastewaters. Sixteen combined sewer overflow (CSO) locations are identified within the City's collection system which discharge into both Sinclair and Dyes Inlets. PSNS outfalls 001 and 023 (Pacific Ave., CSO OF-15A), 015 (Callow Ave., CSO OF-17), and 095 (Pacific Ave., CSO OF-16)

are City CSO discharge outfalls located on the PSNS waterfront. Some stormwater drainage from within the shipyard also discharges through these outfalls. However, it does not appear that domestic or pretreated industrial wastewaters from the shipyard are included in CSO discharges (based upon surveys by shipyard staff and ongoing investigation by permittee's contractor).

6. Electroplating Wastewaters: PSNS operates a pretreatment facility to treat metal finishing wastewaters prior to discharge into the Bremerton WWTP collection system. The pretreatment facility was designed to provide wastewater treatment that would comply with metal finishing pretreatment standards. Pretreatment processes include chemical coagulation and precipitation, settling and filtration. Other sources of wastewater which may exceed categorical pretreatment standards are also treated at this facility prior to discharge to the City of Bremerton.

Design treatment capacity of the treatment facility is 0.36 mgd, however, influent flows do not support continuous operation of the plant. Therefore, discharges from the pretreatment facility occur in "batches" following sampling to determine pollutant concentrations. Sludges generated during treatment are handled as hazardous wastes and routed to the Arlington, Oregon landfill for disposal.

EPA delegated to Ecology permitting authority under the pretreatment program to regulate indirect discharges to publicly owned treatment works (POTWs). Ecology is presently preparing to issue a state waste discharge permit to PSNS to address discharges to the Bremerton POTW.

#### 7. Discharges from Vessels within PSNS

Information regarding discharges from ships docked within PSNS was not available at the time of this draft permit. Discharges from docked vessels may include anti-corrosion treatment of ship boilers. Chemicals used for boiler treatment include trisodium phosphate, ammonium bifluoride and 1-3 diethylthiourea (1983 NACIP report).

The proposed permit does not prohibit nor authorize these or other discharges from ship propulsion systems. Ships discharging ballast or bilge water are required (by PSNS) to treat these discharges through oil/water separators according to shipyard local instruction 0505-903; Operation and Maintenance of Waste Oil Rafts.

#### D. RECEIVING WATERS

All discharges from PSNS are into Sinclair Inlet which is an embayment within Puget Sound. Washington State Water Quality Standards (WQS) included in Chapter 173-201A WAC classify Sinclair Inlet as Marine Class A waters. Beneficial or "characteristic uses" commonly associated with various classifications of waterbodies are listed in a state's WQS. Characteristic uses associated with Marine Class A waters are identified in Washington State WQS as: fish and shellfish rearing, spawning, harvesting and migration; wildlife habitat; recreation; commerce and navigation; and aesthetics.

Chapter 173-201A-030(2)(B)(vii) WAC also establishes that "Toxic, radioactive, or deleterious material concentration shall be below those which have the potential either singularly or cumulatively to adversely affect characteristic water uses, cause acute or chronic conditions to the most sensitive biota dependent upon those waters, or adversely affect public health, as determined by the department (see WAC 173-201A-040 and 173-201A-050)".

The water and sediment quality of Sinclair Inlet has been degraded such that some of the characteristic uses are not presently supported. For example, commercial shellfish harvesting in Sinclair Inlet is prohibited by state health officials. This prohibition is primarily due to fecal coliform concentrations not attributed to PSNS discharges.

Sinclair Inlet (identified as Waterbody Segment No. WA-15-0040) was listed in Washington's 1992 Statewide Water Quality Assessment (305(B) Report) as water quality limited for exceeding the following parameters; fecal coliform, organics, metals, and temperature. This waterbody was also listed under Section 304(1)(A)(i) (mini list) and Section 304(1)(1)(A)(ii) (long list) for not meeting water quality standards for priority pollutants and not achieving the fishable/swimmable goals of the Clean Water Act. Pollutants (in marine sediments) for which this waterbody was listed include: arsenic, cadmium, copper, mercury, zinc, PAHs, phthalates, and PCBs.

Several activities have occurred or are underway which provide information about the receiving waters and PSNS. These activities include a Data Summaries and Problem Identification Report and an Action Plan prepared through the Sinclair and Dyes Inlets Urban Bay Action Program, Site Inspection Study conducted under State Toxics Cleanup and Federal Superfund Programs, and recent EPA inspections. A brief summary of findings of these activities is included below.

## 1. Sinclair and Dyes Inlets Urban Bay Action Program

The Sinclair and Dyes Inlets Urban Bay Action Program was developed to assess the condition of these adjacent waterbodies and to formulate and implement a plan to improve water quality. An "Action Plan" was developed through the efforts of federal, state and local government agencies, PSNS, Suquamish Tribe and citizens. The objectives of Sinclair and Dyes Inlets Action Program, pertinent to the PSNS permit, are summarized below:

- Identify specific toxic areas of concern based on levels of contamination and associated adverse biological effects,
- Identify historical and ongoing sources of contamination,
- Rank polluted areas and sources (to the extent possible) to set priorities for development of corrective actions,
- Implement corrective actions to reduce or eliminate sources of ongoing pollution and restore polluted areas to support natural resources and beneficial uses.

The Action Plan focuses on source control to minimize ongoing inputs of toxic contaminants to the marine environment. It is difficult to differentiate sediment contamination that was caused by past discharges versus that occurring from ongoing discharges. However, it is believed that existing conditions are the result of past disposal practices. It is recognized that cleanup of contaminated sediments should occur only after achieving substantial source control of pollutants. Otherwise, recontamination would undermine the value of sediment cleanup.

Sampling data indicate that sediments nearshore to PSNS are "severely contaminated" by numerous organic and inorganic compounds according to this report. However, the data evaluated during development of the Action Plan may not be representative of existing sediment due to recent dredging. More recent sediment sampling data is available from the Site Investigation Report (discussed below).

A Ecology report (Contamination in Fish and Clams in Sinclair and Dyes Inlets, Cubbage, January 1992) reported findings of a study conducted to support the Sinclair and Dyes Inlets Action Program's efforts. The study concludes that several metals, most importantly mercury, are found in whole clams and edible (muscle) tissue of flatfish, at levels equivalent or higher than other urban bays in Puget Sound. Although PCBs have been detected at significant levels in Sinclair Inlet sediments, PCB levels in fish and shellfish were

not above analytic detection levels in this study. It is speculated that the low lipid weight of the samples affected PCB detection.

The Action Plan identified the most likely source of pollutants from PSNS as spills, leaks, surface water runoff, permitted discharges, and historic waste disposal practices. The City of Bremerton's combined sewer overflow locations on PSNS property, reportedly does not contain wastes other than stormwater runoff. Pollution control actions listed in the plan applicable to PSNS include:

- Evaluation of current discharges including stormwater, ship boiler light-up and ship boiler blowdowns.
- Implementation and review of effectiveness of BMPs for drydock operations and SPCC plan.
- Characterization of PSNS outfall(s) effluent.
- Conduct PSNS industrial drain and storm drain sampling, mapping, prioritization, and BMP development and implementation.
- Maintain PSNS storm drain systems including oil/water separators and catch basins.

All of the above actions are being addressed through the NPDES permit or ongoing state Toxic Waste Cleanup activities.

## 2. Site Inspection Report

Under Department of Defense (DOD) programs, a site inspection report was prepared for PSNS. This report provided information necessary to evaluate contamination at PSNS and to rank the site on state and federal priority ranking systems. Monitoring information included in this study was evaluated during preparation of this permit. Ten "sites" have been established within PSNS and nearshore areas. Washington Department of Ecology issued an administrative order to PSNS in May 1992 directing that remedial investigations and cleanup action plans be prepared for all sites within the facility. The Navy is presently conducting three or four Remedial Investigation/Feasibility Studies at PSNS with Ecology's concurrence.

Pollutants have been determined to be present at levels warranting attention because they may exceed typical ambient background levels in soils, sediment, groundwater or water. These pollutants include the following:

<u>Site #</u>	<u>Pollutant</u>
1	As, Be, Cd, Cr, Cu, Pb, Hg, Ni, Zn, PAH, PCB
2	Pb, Hg, Al, PCB, Acetone
3	Ni, Hg, Zn, As, Cr, Pb, Cu, Cd, Se, PAH, Pesticides, Herbicides
6 (sediment)	As, Cu, Pb, Hg, Zn, BaP, Acenaphthene, Chrysene, 2-4, Dimethylphenol, PCB
7	Cd, Cu, Ni, Pb, Hg, Zn, TCE
10 East	Cu, Zn, Hg, Ag, Pb, Benzo(a)anthracene, Chrysene, PAH, BaP
10 Central	Ba, Cr, Pb, Hg, Ni, As, Cd, PCB, PAH
10 West	As, Be, Cd, Cr, Cu, Pb, Ag, Naphthalene, Fluorene, 2-Methylnaphthalene, Acenaphthalene, Dibenzofuran, Pyrene
11	As, Cd, Hg, Ni, Zn, BTEX, TPH, Ba, Cu
12	Cu, Cd, Pb, Ni, Zn, Hg, Cr, Ba, As, PCB

Monitoring of reference stations was conducted to provide a benchmark with which to compare and contrast results of samples collected near PSNS and within Sinclair Inlet. In general, the sampling showed that sediment contamination near PSNS was significant and that inner Sinclair Inlet was also contaminated (to a somewhat lesser degree) when compared to reference stations one to two miles northeast of the shipyard. Although the report included ambient water column sampling data, the reported detection levels were above ambient water quality criteria. However, the water column data did not show exceedance of water quality criteria at the listed detection levels. At EPA's request, PSNS provided additional effluent and ambient water column information for certain metals of concern using very sensitive analytical techniques. This data is presented in the Water Quality Evaluation section of this fact sheet.

Historic operating and waste disposal practices at the shipyard have contaminated surface soils within PSNS. Ecology has expressed concerns that groundwaters which may be affected by contaminated soils could migrate into surface waters through the PSNS stormwater system. Therefore, monitoring of selected stormwater outfalls is proposed to determine if such migration is occurring. Information generated by this monitoring will be used to augment cleanup activities and/or establish NPDES permit effluent limitations.

Evaluation of contaminated sediments near PSNS is being addressed under a sampling plan contained in the Remedial

Investigation/Feasibility Study (draft January 1993, The URS Team). Contamination of sediment caused by historic discharges or waste disposal practices is presently be regulated under state and federal cleanup programs (state Model Toxics Control Act and federal Superfund Program). Chemical and biological testing of sediments near the shipyard and at appropriate reference stations are included in the proposed monitoring program. Washington's marine sediment standards will be used to gauge the severity of contamination and establish levels for any cleanup activities determined necessary.

It should be emphasized that the purpose of this NPDES permit is to protect receiving waters, which includes sediments, from existing or future discharges through monitoring requirements, effluent limitations and development and implementation of Best Management Practices. Environmental problems determined to have been caused by past practices are being addressed under other state and federal programs.

### 3. Inspection Information

In 1992, EPA and Ecology inspectors conducted an inspection of PSNS which primarily focused on the shipyard's waste handling procedures. Findings in the inspection report that are relevant to NPDES regulated discharges include:

o Sediment (residue from shipyard activities) on the floor of the drydocks is in almost continuous contact with seepage and/or rainfall runoff. The sediment, if not collected, may wash into the drydock drainage tunnels and discharge into receiving waters. Inspection sampling results (in ug/l) are summarized below:

	<u>Drydock Floor Sediment</u>	<u>Tunnel Sediment</u>	<u>Standing Water On Drydock Floor</u>
Arsenic	ND(30) to 39	ND(30)	59
Barium	424 to 2540	456	--
Cadmium	48.1 to 233	ND(2)	--
Chromium	15.2 to 179	ND(2)	ND(5)
Copper	--	--	1580
Lead	492 to 2950	67	ND(20)
Mercury	ND(0.1)	ND(0.1)	ND(0.1)
Zinc	--	--	103

Note: Nondetectable concentrations are indicated as ND with the reported analytical detection level listed in parentheses.

- o A broken sewage line was observed in a drydock discharge tunnel which was later determined to be abandoned and not discharging.

- o The inspectors expressed concern about the adequacy of the shipyard's control over discharges from docked vessels and waste handling practices of the associated "Ship's Forces".

- o Sampling of drydock sediments and discharges had not been routinely conducted for purposes of characterization. Such characterization was considered critical by the inspector for determining effectiveness of BMPs to control wastes and protect the environment.

- o The shipyard is currently very heavily engaged in submarine decommissioning. BMPs developed for drydock operations may not adequately address control of pollutants generated by the current level of this activity.

A subsequent "Multimedia" inspection of the shipyard was conducted during March 1993. Although the findings of this inspection are not yet published, "house keeping" in the drydocks was observed by the inspectors to be dramatically improved from past practices. Procedures have been developed and implemented by the permittee to routinely check for removal of materials from the drydock floors during operation and prior to drydock flooding.

#### 4. Ambient Monitoring Data

Washington Department of Ecology (Ecology) conducts ambient monitoring of marine waters and sediments at 34 "core" stations throughout Puget Sound. An Ecology report titled "Puget Sound Ambient Monitoring Program Marine Sediment Monitoring Task Annual Report" was published in May 1992 containing the results of recent sediment monitoring (1989 & 1990). This report identifies monitoring station 34 as being located in Sinclair Inlet (in middle of Inlet near PSNS).

Monitoring data for this station showed the highest sediment concentrations of all Puget Sound stations monitored, in one or both years, for arsenic ( $\approx 11.5$ ), copper ( $\approx 130$ ), lead ( $\approx 95$ ), mercury ( $\approx 0.9$ ), silver ( $\approx 1.9$ ), zinc ( $\approx 175$ ), Butylbenzyl Phthalate ( $\approx 21$ ), and PCBs (Aroclor 1254  $\approx 49$ ). These results are expressed in mg/kg dry weight. Mercury, butyl benzyl phthalate and PCBs exceeded state sediment quality criteria. Ecology's ambient water column data is primarily focused upon measuring nutrient parameters which evaluate eutrophication. Analyses of heavy metal concentrations in the water column were not conducted.

## 5. Other Puget Sound Shipyards

Ecology has issued NPDES permits to other shipyards in Puget Sound and is currently issuing a general permit for boatyards (facilities servicing vessels < 65 feet in length). These permits include both chemical specific limitations and Best Management Practices that are anticipated to protect receiving waters.

State permit requirements are considered in development of this permit because of the similarity of shipyard activities and associated wastewater generation. Differences between PSNS and the other shipyards should be considered in comparing operations. These differences include the 1) size of operations (PSNS is significantly larger than any other shipyard in Puget Sound); 2) type and size of vessels (PSNS only services military vessels which includes the largest aircraft carriers); 3) PSNS graving drydocks are not the floating type used by most local commercial shipyards; and 4) paint removal at PSNS is accomplished by dry sand blasting rather than with high pressure water (hydroblasting) which is typically used at the commercial shipyards.

### E. COMPLIANCE STATUS

The existing permit was issued September 12, 1986 and contained effluent limitations and monitoring requirements for outfalls 003, 004, 008, 012, 018, 019, and 021. The permit also required PSNS to develop and implement a Best Management Practices (BMPs) plan to prevent and/or minimize the potential for discharges of toxic substances.

#### 1. Effluent Limitations

Flow and temperature limitations for discharges from outfalls 003, 004, 008 and 012 were included in the existing permit to address the discharge of compressor cooling water from these locations. The permittee has since eliminated discharge, except for stormwater, from these outfalls. Therefore, monitoring for flow and temperature is being removed from the permit for these outfalls.

Flow and Oil & Grease limitations were included for discharges through outfalls 018 and 019. Discharge limitations for outfall 021 (steam plant) included pH, TSS, Oil & Grease, Total Residual Chlorine, Free Available Chlorine, flow, temperature, Total Chromium, Total Zinc and the 126 priority pollutants (except zinc and chromium). A mixing (dilution) zone was established at a radius of 150 feet from the outfalls for compliance with temperature limitations.

For the most part, the permittee has achieved significant compliance with limitations for flow, temperature and Oil & Grease at all outfalls. Discharges from the steam plant (outfall 021) have occasionally exceeded permit limitations, as summarized in part C.3., above. Problems were encountered during startup of the new steamplant which contributed to noncompliance with effluent limitations. These startup problems were resolved but various parameters have been exceeded since that time. Use of chlorine at the steam plant has recently been eliminated and should therefore also eliminate potential exceedance of chlorine limitations. A "citizen suit" (authorized under the Clean Water Act) was recently filed against the shipyard for violations of permits limitations.

## 2. Spills

PSNS employs approximately 12,500 workers engaged in industrial shipyard activities on piers and drydocks located along the Sinclair Inlet waterfront. These industrial activities invariably result in spills of substances onto the ground or water. Discharges occurring as the results of spills, pipe breakage, and pump station failures represent a significant threat to the quality of receiving waters.

Spills represent unauthorized discharges of varying significance to Sinclair Inlet. The most commonly reported spill occurrences are from broken sanitary collection pipes, sanitary waste pump stations, and spills of materials that entered storm drains. PSNS staff have been diligent in reporting spills to EPA in accordance with permit requirements. In recent months, the number of reported spills has increased markedly. This increase is attributed, in part, to efforts by the permittee to educate workers about spill prevention and reporting procedures.

Condition I.C.2. of the existing permit directed the permittee to develop and implement BMPs which "prevents, or minimizes the potential for, the release of toxic substances from ancillary activities to the waters of the United States through plant site runoff; spillage or leaks; sludge or waste disposal; or drainage from raw material storage or dry docks". A Best Management Practices Plan for Drydocks 1 - 6 was submitted to EPA in 1987. PSNS also submitted a Spill Prevention Control and Countermeasure (SPCC) Plan in August 1991. PSNS has also developed Environmental Compliance Plans for Recycling Projects in the drydocks. EPA did not review or comment on these plans regarding their adequacy to protect receiving waters. Numerous other PSNS specific operating directives applicable to environmental issues have been developed.

The proposed permit requires the permittee to update existing BMPs to minimize the potential for discharges from spills. PSNS has also committed to preparing a summary document

which addresses the environmental protection elements contained in the various operating directives which comprise the shipyard's BMPs.

## F. Permit Conditions

### 1. General Approach

Sections 101, 301(b), 304, 308, 401, 402 and 405 of the Clean Water Act provide the basis for the effluent limitations and other conditions in the draft permit. EPA evaluates discharges with respect to these sections of the Act and relevant NPDES regulations in determining which conditions to include in the permit.

In general, EPA first determines which technology-based limitations are required, as well as best management practices or other requirements. EPA then evaluates the effluent quality expected to result from these controls, to see if it could result in any violations of applicable WQS in the receiving waters. If violations could occur, EPA must include water quality-based limitations in the permit. The permit limitations will thus reflect whichever limits (technology-based or water quality-based) are most stringent.

EPA must also include monitoring requirements in the permit to determine compliance with effluent limitations. Effluent and ambient monitoring may also be required to gather data for future limitations, evaluating the effectiveness of BMPs to control pollutants in the discharge(s), or monitoring effluent impacts on receiving water quality. The basis for permits conditions is described in the following sections.

### 2. Technology-Based Evaluation

#### a. Statutory Basis for Technology-Based Limitations

The Act requires particular categories of industrial dischargers to meet effluent limitations established by EPA. The Act initially focuses on the control of "traditional pollutants (conventional pollutants and some metals) through the use of Best Practical Treatment Economically Achievable (BPT). Industrial dischargers were required by section 301(b)(1)(A) of the Act to meet this level of control by July 1, 1977. Section 301(b)(3) of the Act allowed a deadline of March 31, 1989, under certain circumstances, but that deadline has also passed. Thus, permits issued after March 31, 1989, must include any conditions necessary to ensure that the BPT level of control is achieved.

In many cases, limitations are based on effluent guidelines developed by EPA for specific industries. Where EPA has not yet

developed guidelines for a particular industry or a particular pollutant, permit conditions must be established using Best Professional Judgement (BPJ) procedures (40 CFR 122.43, 122.44, and 125.3).

Section 301(b)(2) of the Act requires further technology-based controls of effluents. After March 31, 1989, all permits are required by section 301(b)(2) and (3) of the Act to contain effluent limitations for all categories and classes of point sources which: (1) control the use of Best Available Technology Economically Achievable (BAT), and (2) represent BCT. BCT effluent limitations apply to conventional pollutants (pH, BOD, oil and grease, suspended solids, and fecal coliform). Nonconventional pollutants include all pollutants not included in the toxic and conventional pollutant categories. In no case may BCT or BAT be less stringent than BPT.

Like BPT requirements, BAT and BCT permit conditions must be established using BPJ procedures in the absence of effluent limitations guidelines for a particular industry or pollutant.

As required by section 304(b)(2)(B) of the Act, when developing BPJ/BAT permit conditions, the Agency must consider the age of equipment and the application of various types of control techniques, process changes, and cost of achieving such effluent reduction, non-water quality environmental impact (including energy requirements), and such other factors as the director deems appropriate.

#### b. Statutory Basis for Monitoring Requirements

Under Section 308 of the Act and 40 CFR 122.44(i), the Director must require a discharger to conduct monitoring whenever necessary to determine compliance with effluent limitations or to assist in the development of effluent limitations. EPA has included several monitoring requirements in this permit related to technology-based permit conditions.

#### c. Effluent Limitation Guidelines

There is only one PSNS discharge for which discharge limitations are based upon federal Effluent Limitation Guidelines (guidelines). Guidelines for the Steam Electric Point Source Category (40 CFR 423) were used in developing the limitations of the existing permit for discharges from the steam plant (discharge outfall 021). The fact sheet for the existing permit noted that although these guidelines are not directly applicable, they were used because the process technology used at the steam plant were very similar to those addressed in the steam electric guidelines. The existing limitations were based upon New Source Performance Standards, which are equivalent to BAT for this category.

The proposed technology-based limitations and monitoring requirements for discharge 021 are, for the most part, consistent with the existing limitations. The only change is to increase the flow limitations. Flow limitations in the existing permit were based upon projected discharges from the steam plant water treatment system when the steam plant was under construction. Actual discharge flows are higher because steam condensate returns to the plant are lower than originally expected and more make-up water must be generated (requires greater than anticipated use of demineralizer). Also, although chlorine usage has been eliminated at the steam plant, the existing limitations are maintained in case use of chlorine is determined to be necessary in the future.

A water quality evaluation was conducted when these limitations were originally developed for the existing permit issued in 1986. This evaluation determined that discharges in compliance with (then proposed) effluent limitations should not result in any water quality impacts.

#### d. Best Management Practices

Best Management Practices (BMPs) in addition to numerical effluent limitations are required to control or abate the discharge of pollutants in accordance with 40 CFR 122.44(k). The permit requires the development and implementation of a Best Management Practices Plan which prevents or minimizes the generation of pollutants, their release, and potential release from the facility to the waters of the United States through normal operations and ancillary activities, including material storage areas, plant site runoff, storm water, in-plant transfer, process and material handling areas, loading or unloading operations, spillage or leaks, sludge and waste disposal, or drainage from raw material storage. The BMP Plan should incorporate elements of pollution prevention as set forth in the Pollution Prevention Act of 1990. (42 U.S.C. 13101).

Excepting discharges from the steam plant and noncontact cooling water, the remaining discharges from PSNS are from stormwater runoff and accidental spills. Implementation of BMPs designed to prevent or minimize pollutants from being discharged are expected to provide a practical and effective method for controlling these discharges.

During development of permits recently issued by the Washington Department of Ecology to commercial shipyards, the state established Best Management Practices for Drydock, Vessel, and Yard Operations and Maintenance. These BMPs have been included in permits issued to several commercial shipyard operations. PSNS is required to develop and implement BMPs which provide environmental protection equivalent to state

requirements, at a minimum, for any activities which are similar to commercial shipyard operations.

EPA has agreed with the permittee's proposal to prepare and maintain a document which summarizes all local instructions, guidance and policies which constitute the shipyard's BMPs (applicable to environmental concerns). A requirement to prepare and maintain this document is included in the permit.

#### 1) Drydocks Operation BMPs

As discussed above in this fact sheet, BMPs have been established in the shipyard's SPCC plan and for dry dock operations plan. A specific EPA concern is that spent sandblasting material be cleaned from drydock floors as expeditiously as possible to prevent it entry into receiving waters. Additionally, the existing BMPs may need updating to address changes in the type and/or level of current activities, such as submarine decommissioning.

#### 2) Stormwater BMPs

Requirements of 40 CFR 122.26 require that stormwater discharges from industrial activities must be permitted through the NPDES program. A "group application" was submitted by DOD to cover a large number of facilities nationally, including PSNS, on September 25, 1992. EPA has not yet issued a permit for this group of dischargers. Application (form 2F) was received from PSNS on May 5, 1993 for coverage of stormwater discharges under an individual permit. Shipyard representatives state that PSNS is presently operating to meet conditions established in the EPA issued General Permit No.: WA-R-00-000F. However, permanent coverage of PSNS stormwater discharges under a general permit is inappropriate because of the site specific concerns discussed above.

Stormwater control requirements in this permit that are similar to state and federal general industrial stormwater permits. The statutory authorities are discussed at length in the fact sheets for these permits and referenced, but not reiterated in this fact sheet. These general permits require industrial dischargers to develop a plan to implement measures which identify, prevent, and control the contamination of point source discharges of stormwater. Also, the federal permit requires certain categories of industries to conduct monitoring of stormwater discharges.

The plans are called Stormwater Pollutant Prevention Plans (SWPPP). EPA considers implementation of a SWPPP to represent application of BAT. Essential elements of a SWPPP include:

- o Assessment of activities and handling of material and equipment that causes or has the potential to cause contamination of stormwater.
- o Development and implementation of BMPs to prevent surface, groundwater, or sediment contaminations. The permittee is directed to use guidance included in Ecology's 1992 Stormwater Management Manual for the Puget Sound Basin to develop these BMPs.
- o Certification by the official responsible for the facility, that the discharge(s) has been investigated for the presence of non-stormwater discharges.
- o Preparation of an accurate site map showing stormwater conveyance and discharge structures, drainage areas for each stormwater discharge point, and activities within these areas.

### 3) Spill Prevention and Control Countermeasure Plan

The permittee is required to maintain a current SPCC plan to control discharges that may occur as the result of spills. EPA recognizes that many of the SPCCs BMPs (to control and prevent spilled substances from entering receiving waters) are the same practices developed to address pollution prevention from discharges of stormwater and from drydock operations.

## 3. Water Quality Evaluation

### a. Statutory Basis for Water Quality-Based Limitations

Section 301(b)(1) of the Act requires the establishment of limitations in permits necessary to meet water quality standards by July 1, 1977. All discharges to state waters must comply with state water quality standards, including the states antidegradation policy. Discharges to state waters must also comply with limitations imposed by the state as part of its certification of NPDES permits under section 401 of the Act.

The NPDES regulation at 40 CFR 122.44(d)(1) require that permits include limitations on all pollutants or parameters which "are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality" (54 Fed. Reg. 23868-23899; June 2, 1989).

The regulations require that this evaluation be made using procedures which account for existing controls on point and nonpoint sources of pollution, the variability of the effluent, species sensitivity (for toxicity), and where appropriate, dilution in the receiving water. The limitations must be stringent enough to ensure that water quality standards are met, and must be consistent with any available wasteload allocation.

The regulations also specifically address when toxicity and chemical-specific limitations are required. A toxicity limit is required whenever toxicity is at a level of concern (as discussed above) relative to either a numeric or narrative standard for toxicity. The only exception is where chemical-specific limitations will fully achieve the narrative standard. A chemical-specific limitation is required whenever an individual pollutant is at a level of concern (as described above) relative to the numeric standard for that pollutant. The regulations also provide three options for developing a chemical-specific limitation needed to control a pollutant which does not have a numeric standard, but is contributing to a problem with the narrative standard.

#### b. Statutory Basis for Monitoring Requirements

Under Section 308 of the Act and 40 CFR 122.44(i), the Director must require a discharger to conduct monitoring whenever necessary to determine compliance with effluent limitations or to assist in the development of effluent limitations. EPA has included several monitoring requirements in this permit related to water quality-based permit conditions.

#### c. Applicable Water Quality Standards

As discussed in section E of this fact sheet, PSNS discharges impact waters of Washington State. Washington WQS specify specific numeric criteria for certain pollutants (Chapter 173-201A-040 WAC). Effluent limitations must be included in a permit if a discharge threatens (has a reasonable potential) to cause these criteria to be exceeded in receiving waters.

State standards for temperature specify marine water temperature shall not exceed 16.0°C due to human activities. Also, temperature increases shall not, at any time, exceed  $t=12/(T-2)$ . "t" represents the permissive temperature change across the dilution zone; and "T" represents the highest existing temperature in this water classification outside of any dilution zone. When natural conditions exceed 16°C, no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3°C.

Marine sediment criteria have also been adopted as regulation by the state. However, as mentioned above, cleanup of existing sediment contamination near PSNS is being addressed by the state's Toxic Cleanup Program EPA's Superfund Program.

Under Washington's WQS, a mixing zone may be authorized which takes into account the effects of immediate dilution of the discharges with receiving waters. State WQS (Chapter 173-201A-100 WAC) specifies the sizing of mixing zones and how acute and chronic water quality criteria are to be applied within these zones. Sizing of mixing zones for applying human health criteria is not addressed. Permit writers utilize these standards to establish mixing zone sizes (where appropriate) for state NPDES permitting activities. These standards are used to establish mixing zone sizes in this proposed permit.

The regulation states (in summary form), in part, that:

- (1) Mixing zones, if authorized, shall be established in permits, as appropriate.
- (2) A discharger shall be required to fully apply AKART prior to being authorized a mixing zone.
- (3) Mixing zones shall be established in consideration of critical discharge conditions.
- (4) No mixing zone may be authorized if adverse environmental or human health impact will result.
- (5) Water quality criteria shall not be violated outside the boundaries of a mixing zone as a result of the discharge.
- (6) The size of the mixing zone and concentration of pollutants shall be minimized.
- (7) The size of a mixing zone shall comply with the following:
  - (c) In estuarine waters, mixing zones, singularly or in combination with other mixing zones, shall not extend in any horizontal direction from the discharge port(s) for a distance greater than two hundred feet plus the depth of water over the discharge ports as measured during mean lower low water. For the purpose of this section, all marine waters not classified as estuarine in this subsection shall be categorized as oceanic.
- (8) Acute criteria are to be met as near as possible to the point of discharge. A "zone of acute criteria exceedance" may be authorized provided the duration and frequency of the discharge does not create a barrier to migration of aquatic species. The maximum size of this zone shall not be greater than ten percent of the distance to the mixing zone boundary.

In light of this regulation, a mixing zone of 200 feet was used for evaluation of the potential of the discharges through outfalls 018 and 019 to cause violations of state WQS. A zone of acute criteria exceedance is proposed at 20 feet for evaluation of potential acute toxicity effects. Chronic and acute criteria will apply at the boundary of these respective zones. A mixing zone of 150 feet was established in the existing permit for outfall 021 and is maintained in this permit.

Another condition of Washington's WQS states "Whenever the natural conditions of said waters are of lower quality than the criteria assigned, the natural conditions shall constitute the water quality criteria (WAC 173-201A-070(2) Antidegradation). This standard is a consideration in developing effluent limitations as discuss later in this fact sheet.

Sediment impact zones may be authorized per Chapter 173-204 WAC. Such a zone may be established by the state after completion of site evaluation and cleanup activities.

If the state approves and certifies the above mixing zone(s), EPA believes that the requirements and effluent limitations in this proposed permit will ensure that water quality standards are met at the edge of that zone. Also, in issuing this permit, EPA has considered Washington's antidegradation policy. Compliance with terms and conditions of the proposed permit should result in decreased discharge of pollutants into waters of the state and therefore complies with the state's antidegradation policy.

#### d. Effluent/Receiving Water Mixing

Receiving water conditions must be considered in determining "worst case" (or critical) receiving water conditions in establishing water quality-based limitations. In this case, temperature, high salinity and stratification are primary conditions affecting effluent mixing. A previous dilution study\* determined worst case conditions in the vicinity of PSNS and they were used in this evaluation.

Parameters used in the computer model for determining mixing include:

	<u>Outfall 018</u>	<u>Outfall 019</u>	<u>Receiving Water</u>
Flow (1)	2.5 mgd	2.8 mgd	
Temperature	14.1°C	17.8°C	*16°C at 0 feet *15°C at 33 feet
Salinity (g/l)	29	22.1	*30 at 0 feet *30.9 at 33 feet
Depth of pipe	0.8 feet	5.17 feet	
Water Depth (near outfall)	42 feet	43 feet	
Discharge Pipe (Diameter)	24 inches	36 inches	
Mixing Zone	200 feet	200 feet	
Acute Criteria Exceedance Zone	20 feet	20 feet	

(1) Daily average discharge flows were used for evaluating effluent/receiving water mixing. Although daily maximum discharges from these outfalls are higher than daily average flows, critical mixing (maximum stratification) is anticipated to occur during summer months when discharges are below daily average values. Outfall salinity values were obtained from sample measurements collected July 2, 1992 by PSNS staff. The permittee's recent submittal of revised flow information for outfalls 018 and 019 do not significantly change the estimated mixing obtained within authorized mixing zone boundaries.

\* Receiving water temperature and salinity were selected to represent maximum stratification conditions from the worst 10th percentile of monthly data collected from Ecology's ambient monitoring of Sinclair Inlet (per dilution study by Burns and McDonnell Engineering Company, March 1982).

Dilution within the authorized mixing zones for existing outfall 018 and 019 was estimated using the ERL-N Plumes Program (June 10, 1992). This model predicts that mixing within the boundaries of the authorized zones (200 feet) will provide approximately 4:1 dilution for both outfalls. Effluent to receiving water mixing at the boundary of the authorized zones of

acute criteria exceedance (20 feet) are calculated to be approximately 2:1 for both outfalls.

e. Permit Limitation Derivation

In addition to existing water quality-based effluent limitations for temperature and pH, limitations are proposed for copper, zinc, and lead from discharge outfalls 018 and 019. BMPs and/or treatment necessary to achieve compliance with limitations for these pollutants are expected to also control other pollutants potentially present in these discharges.

In determining these limitations, EPA used a statistical permit limitation derivation approach described in the EPA guidance documents, "Permit Writers Guide to Water Quality-Based Permitting for Toxic Pollutant" (U.S. EPA, 1987) and "Technical Support Document for Water Quality-Based Toxics Control" (U.S. EPA 1991). The latter document is commonly referred to as the "TSD". This approach takes into account effluent variability in setting limitations which are low enough to ensure that water quality standards are met. The approach also takes into account the difference in timeframes and frequency of sampling between the water quality standards and monthly average and daily maximum limitations.

EPA used the following values in deriving concentration limitations using the formulas in the guidance documents:

Coefficient of variation		0.6
Probability value for long-term average calculation		99%
Probability value for AML calculation		95%
Probability value for MDL calculation		99%
Frequency of monitoring		weekly
State Water Quality Standard		
Copper (dissolved)	marine acute	2.5 ug/l
(background)*		6.0 ug/l
Lead (dissolved)	marine acute	151.1 ug/l
	marine chronic	5.8 ug/l
Zinc (dissolved)	marine acute	84.6 ug/l
	marine chronic	76.6 ug/l

\* Based upon monitoring conducted in December 1992.

These values are used to derive both acute and chronic wasteload allocations, with the most stringent used to derive monthly average and daily maximum limitations.

#### f. Water Quality-Based Limitations

In developing the existing permit EPA considered potential water quality impacts from discharge 021 with a mixing zone of 150 feet (per then existing state guidance on mixing zones). EPA determined that no adverse impacts should occur. The existing mixing zone size for discharge 021 is maintained in the proposed permit.

Mixing zones for discharges of temperature from outfalls 003, 018 (inclusive of 018A and 096) and 019 are included in the proposed permit. Large amounts of marine and ground water infiltrate into the drydocks and constitutes most of the drydock discharges during dry weather. Temperature of the discharge is typically near or below the ambient receiving water temperature in the vicinity of the outfalls. Therefore, temperature limitations are not proposed for discharges 018 and 019 because there appears to be little chance that water quality standards for temperature will be exceeded within the authorized mixing zone.

Oil and grease limitations are also consistent with existing permit limitations. Water quality-based limitations are not proposed for the remaining stormwater discharge outfalls and therefore no mixing zone is established for these discharges, at this time.

##### 1) Metals

Results of wastewater characterization of discharges from PSNS (and of shipyard operations, in general) indicated a reasonable potential exists for copper, lead and zinc to be present at concentrations which may cause exceedances of water quality standards in receiving waters. Monitoring of discharges 018, 019 and receiving waters were conducted in December 1992 by the permittee at EPA's request. This monitoring improved the limited existing data base for evaluating potential water quality impacts because very sensitive analytical methods were used. The following results of this obtained from this monitoring (in ug/l):

	Receiving Waters		Outfall 018		Outfall 019	
	<u>total</u>	<u>dissolved</u>	<u>total</u>	<u>dissolved</u>	<u>total</u>	<u>dissolved</u>
Copper						
minimum	14	5	25	13	13	32
maximum	30	8	39	22	23	15
*average	22	6	35	16	19	7
Lead						
minimum	≤2	≤2	3	≤2	3	≤2
maximum	8	≤2	120	2	11	3
*average	7	1	28	1	5	1
Zinc						
minimum	15	≤20	180	≤20	180	≤20
maximum	680	≤20	2800	110	1560	≤20
*average	256	10	1176	32	708	10

\* Values reported below analytic quantification levels were assigned a value of one-half of that level in calculating averages.

The above information was collected during wet weather and consisted of five sampling events. The ambient station was located mid-Sinclair Inlet, approximately one-half mile from the shipyard, off of drydock 6. This ambient station should be representative of current "natural conditions" in the receiving waters and far enough away from PSNS to be unaffected by existing PSNS discharges.

These data indicate that both the total and dissolved background concentrations in receiving waters exceed ambient water quality criteria for copper. As authorized by state WQS, the background concentration of 6 ug/l was used as the standard for establishing effluent limitations. There is always concern that a limited data base may be insufficient for making permit decisions. Therefore, the permit requires PSNS to conduct additional ambient and effluent monitoring using "clean" techniques identified in the Puget Sound Estuary Programs Recommended Protocols for Measuring Metals In Puget Sound Water, Sediment and Tissue Samples. EPA intends to evaluate such monitoring data, if available, prior to making final permit determinations on effluent limitations for this permit.

Proposed permit limitations for metals are based upon state WQS which are based upon the dissolved form of the metal. Definitive guidance regarding implementation of these new WQSs into NPDES permits is presently being developed by Ecology. The guidance will establish procedures for translating the dissolved metals standards into total recoverable effluent limitations as required by 40 CFR 122.45(c). This translation may be accomplished by applying the ratio of dissolved to total

recoverable metals to the calculated water quality-based limitations for dissolved metals. Ambient monitoring information clearly demonstrating seasonal partitioning will be necessary to apply the translation factor. Because existing data does not provide this necessary information, a 1:1 ratio was used.

The permittee is required to conduct ambient monitoring of dissolved and total recoverable copper, lead and zinc for twelve months from permit issuance. The permittee will also be required to monitor outfalls 018 and 019 for the dissolved metal concentrations for one year. The proposed recoverable and dissolved metals monitoring information will be used in future considerations about dissolved vs total recoverable metals limitations and the environmental fate of these pollutants.

Average monthly and daily maximum limitations were calculated based upon the 95th and 99th percentile level, respectively, as recommended in TSD guidance. The proposed monitoring for these parameters is weekly. The average flows used for calculation of the mass limitations are 2.82 and 5.24 mgd for 018 and 019, respectively. The following limitations are proposed for discharges through outfalls 018 (inclusive of 018A and 096) and 019:

<u>Parameter</u>	<u>Daily Maximum</u>	<u>Monthly Average</u>
Copper (Total Recoverable)	0.006 mg/l	0.003 mg/l
018	0.14 lbs/day	0.07 lbs/day
019	0.26 lbs/day	0.13 lbs/day
Lead (Total Recoverable)	0.038 mg/l	0.019 mg/l
018	0.89 lbs/day	0.45 lbs/day
019	1.66 lbs/day	0.83 lbs/day
Zinc (Total Recoverable)	0.169 mg/l	0.084 mg/l
018	3.97 lbs/day	1.98 lbs/day
019	7.38 lbs/day	3.67 lbs/day

Monthly monitoring of outfalls 018 and 019 is proposed during the first year for total recoverable mercury, and PCBs to verify that discharges are not presently contributing to the existing elevated concentrations of these pollutants in Sinclair Inlet sediments. Shipyard activities in and around the drydocks involve handling PCB materials. This monitoring will also verify the effectiveness of handling practices developed to prevent discharges of PCBs. After this data is collected, the permit may be reopened, if necessary, to establish limitations, require additional monitoring, or impose additional BMP requirements to control discharges of these pollutants.

## 2) Toxicity Testing

Whole effluent toxicity (WET) testing is proposed for outfalls 018 and 019 to determine if the discharge may be causing acute or sublethal (chronic) effects in receiving waters. WET testing or limitations must be included in a permit in accordance with 40 CFR 122.44(d) and EPA policy and guidance for cases where a reasonable potential for violation of water quality standards exists. The presence of metals in these effluents at concentrations which may cause exceedance of WQSS indicates the potential for whole effluent toxicity to also exist. Testing requirements specify that toxicity sampling occur coincidental with the proposed chemical specific monitoring of stormwater for these outfalls. The information provided by this monitoring will be used to establish additional requirements or permit limitations, if necessary, to protect water quality.

## 3) Sediment

Sediment monitoring is not a requirement of this permit because extensive monitoring near PSNS was recently completed as part of the site investigation. Additional chemical specific and toxicity monitoring of sediments is being conducted under the Remedial Investigation/Feasibility Study of the site. Monitoring and evaluation of sediment quality under state and federal programs is anticipated to continue throughout the five year duration of this NPDES permit.

The permit requires that findings of sediment sampling be submitted annually, as results become available, to EPA's Water Division. This permit may be reopened to establish monitoring requirements or effluent limitations based upon evaluation of the sediment testing results. It is anticipated that discharges in compliance with the proposed permit should not significantly contribute to additional sediment contamination.

## 4) Stormwater Monitoring

Monitoring of selected stormwater outfalls is proposed. This monitoring should provide valuable information regarding general contamination of stormwater runoff from the shipyard and also determine if pollutants associated with PSNS soil contamination are entering receiving waters through this pathway. Monitoring will also help indicate the effectiveness of PSNS BMPs. Monitoring is proposed for outfalls representative of stormwater discharges from the various areas identified in the Site Investigation Report. This monitoring is to be conducted during the first two years of the permit.

The draft RI/FS identified certain pollutants with potential to be present in soil or groundwater within the various shipyard "sites". Proposed monitoring requirements in this permit specify

that designated stormwater outfalls which provide drainage of rainfall runoff from these sites are to be monitored for pollutants which have a reasonable potential to be present in the discharge. Accordingly, stormwater monitoring is proposed for outfalls 001, 003, 006, 010, 012, 014, 015, 022, 023, 025, 030, 038, and 052 (formerly designated 007b).

Required testing is specified in a monitoring matrix in the permit which includes conventional pollutants, metals, total petroleum hydrocarbons, cyanide and semi-volatile organics. The proposed frequency of monitoring is designed to evaluate discharges from these outfalls during different seasonal climatic and soil conditions. One sample from each identified outfall will be collected during the first significant rainfall event after September 1. Another sample will be collected during a significant rainfall event after March 1 and before April 30. A third sample will be collected (if discharge is occurring) during August. Monitoring may be discontinued for parameters not detected (at CRDL levels) in an outfall after the first three monitoring events.

Stormwater monitoring information will be used to evaluate the effectiveness of BMPs. After these data are collected, the permit may be reopened, if necessary, to establish limitations, require additional monitoring, or impose additional BMP requirements to control discharges of any pollutant which threatens to cause a violation of state water quality standards.

#### g. Best Management Practices

The proposed permit requires the discharger to update existing or develop new BMPs to control pollutants in discharges from the entire shipyard. The permit identifies objectives of BMPs and includes a schedule for completion of BMP update and implementation.

Overflows from the nine sanitary lift stations which pump wastes from PSNS to the Bremerton WWTP have occasionally occurred. Power failure/high level alarms have been installed by the permittee on all nine sanitary waste lift stations. These alarms were operational during the March 1993 multi-media inspection.

### G. OTHER LEGAL REQUIREMENTS

#### 1. Endangered Species Act

EPA has requested listings of any endangered species in the vicinity of PSNS from the U.S. Fish and Wildlife Service (USFWS) and from the National Marine Fisheries Service (NMFS). In a letter dated July 15, 1987, the Olympia field office of the USFWS

stated that there are no listed or proposed endangered species at PSNS. The spotted owl and bald eagle were identified as the only federally listed endangered species known to exist in Kitsap County. More recently, USFWS responded to EPA's listing request in a letter dated April 19, 1993. This update included the following listed species:

Bald eagle (*Haliaeetus leucocephalus*) - wintering bald eagles may occur in the vicinity of the project from October 31 through March 31.

Marbled murrelet (*Brachyramphus marmoratus*) - nesting murrelets may occur in the vicinity of the project from about March 1 through mid-September.

Peregrine falcons (*Falco peregrinus*) - spring and fall migrant falcons may occur in the vicinity of the project.

NMFS responded to EPA's listing request in a letter dated March 31, 1993. In that letter, NMFS stated that "Two species of threatened and/or endangered marine mammals, stellar sea lion (*Eumetopias jubatus*) and gray whale (*Eschrichtius robustus*), occur in the vicinity of Sinclair Inlet".

EPA has determined that discharges from the shipyard which are in compliance with requirements and limitations of the permit are not likely to adversely effect the listed endangered species. Past waste/wastewater disposal practices by the shipyard are believed to have contributed to sediment contamination in Sinclair Inlet. As mentioned earlier in this fact sheet, assessment (via monitoring) of contaminated sediments is presently being addressed by PSNS in consultation with the state's Toxic Cleanup Program and EPA's superfund program.

The proposed permit regulates discharges from existing facilities and shipyard activities located within an industrial area that has been fully developed during the last century. The proposed permit is not associated with any particular construction project or increase in general or special activities at the shipyard that may cause any additional impacts on listed species.

Copies of the proposed permit and fact sheet will be provided to USFWS and NMFS during the public notice period, and concurrence with EPA's no adverse effect determination will be requested as part of informal consultation.

## 2. State Water Quality Standards and State Certification

Since state waters are involved in the draft permit, the provisions of Section 401 of the Act apply. Furthermore, in

accordance with 40 CFR 124.10(c)(1), public notice of the draft permit has been provided to the State of Washington Department of Ecology and Washington state agencies having jurisdiction over fish, shellfish, and wildlife resources. This public notice is intended to also serve as notice of the state's intention to certify the permit.

### 3. Interstate Waters

Under 40 CFR 124.10 (c)(1)(iii), EPA must give notice of this permit action to any affected state. Notice has been given to Washington Department of Ecology and other Washington state agencies (as defined in this regulation) impacted by this action.

## RESPONSE TO COMMENTS

Puget Sound Naval Shipyard  
NPDES Permit No. WA 000206-2

### 1) Comment

The permittee questioned the basis of water quality-based effluent limitations for metals in discharges 018 and 019.

### Response

As stated in the fact sheet, most metals criteria for the protection of aquatic life included in Washington's water quality standards are based upon the dissolved form of the metal in receiving waters. NPDES regulation require that effluent limitations for metals be established in permits as total recoverable. According to Washington's water quality standards, the regulatory agency may apply the dissolved criteria directly as was done in the proposed permit, or utilize information (if it is available) about partitioning of these pollutants in the effluent after mixing in receiving waters.

At EPA's request, the permittee conducted monitoring of total recoverable and dissolved metals in the effluents (both 018 and 019) and in the receiving water. It was determined that the dissolved/total recoverable partitioning of metals in these discharges, which are predominately marine water, are nearly identical to Sinclair Inlet. Also, monitoring results again demonstrated that ambient background concentrations exceed water quality criteria for copper. EPA applied the determined partitioning ratio to the dissolved metals criteria-based effluent limitations to establish the total recoverable effluent limitations contained in the final permit. Attached to this fact sheet are the calculations for the copper limitations.

The additional monitoring also demonstrated that lead and zinc concentrations were well below the dissolved criteria and did not represent a reasonable potential to cause violations of water quality standards. Limitations for these metals were originally proposed because they have been found in commercial shipyard effluents. Limitations for these metals were therefore deleted from the permit. Although EPA is confident that the lead and zinc monitoring data provided by the permittee is of good quality, the permittee is required to conduct additional effluent and ambient metals analyses to verify that the monitoring was representative of existing conditions (which may vary tidally and seasonally) and current discharges.

EPA used a flow of 2.8 mgd in calculating the proposed copper load limitations for outfall 019. The final permit includes limitations for this parameter based on a corrected flow rate of 5.2 mgd. EPA used the corrected flow of 2.8 mgd for discharges

from outfalls 018, 018A and 096, collectively, for calculating mass based limitations.

2) Comment

The permittee requested that chemical specific and whole effluent toxicity testing be rotated between 018, 018A and 096.

Response

Discharge from outfalls 018 and 018A are reportedly used alternately to discharge the same effluent. Therefore, the permittee may sample the discharge from whichever outfall is being used at the time of sampling. Discharge 096 has not been characterized to the extent of 018 and 019. Also, outfall 096 discharges from drydock areas which are no longer routed to 018 or 018A and the effluent may be different. Therefore, monitoring of discharge 096 must be sampled independently as required in the permit.

3) Comment

The permittee requested that metals limitations not be established in the permit which are below analytical detection levels and also below the concentrations that are amenable to effective treatment.

Response

The limitations included in the final permit are above detection levels achievable by EPA approved testing methods. The permittee may utilize any EPA approved method for effluent analyses including metals or Oil and Grease provided that the method achieves the minimum analytical sensitivity required in the permit.

4) Comment

The permittee requested that pH monitoring not be required in outfalls 018 and 019.

Response

Discharges from these outfalls are approximately two-thirds sea water which infiltrate into the drydocks. It is unlikely that any significant change in pH will occur because of the natural buffering of the marine water. Therefore, pH monitoring is not being required for these discharges.

5) Comment

The permittee requested to increase Oil and Grease monitoring of 018 and 019 to weekly.

Response

The requested increase in frequency for monitoring Oil and Grease is included in the final permit.

6) Comment

The permittee is considering installation of diffusion structures on outfalls 018 and 019 to enhance mixing within the authorized mixing zones and requested a permit reopener that would allow corresponding changes in the mixing zone size.

Response

Such a reopener is not necessary to propose future changes to the permit to address a significant change in quality, quantity or location of the discharge. Any future permit change must be accomplished through formal permit reissuance or modification procedures which would include public notice action.

7) Comment

The permittee requests that the flow limit for outfall 021 (treated steam plant discharge) be increased to 0.17 mgd from 0.13 mgd. Increases to loading limitations for TSS and Oil and Grease for this outfall were requested to correspond to higher flow from the treatment plant.

Response

The limitations for outfall 021 were increased as requested. No adverse impact to receiving water should occur as a result of increased flow from this outfall.

8) Comment

The permittee request that the permit clarify that effluent limitations for cooling tower blowdown also apply to the diesel generator system.

Response

The permit has been clarified to apply metals limitations to both the air compressor and diesel generator cooling tower blowdown prior to mixing with other wastestreams.

9) Comment

The frequency of whole effluent toxicity (WET) testing of outfalls 018, 018A, 096 and 019 were omitted from the permit.

Response

The frequency of monitoring in the final permit specifies that WET testing be conducted quarterly on 24-hour composite samples to characterize these effluents for both acute and chronic toxicity. This frequency is consistent with the testing frequency required of other (commercial) shipyard operations within Puget Sound by the Washington Department of Ecology.

10) Comment

The permittee requested that the permit allow that no additional WET testing dilutions are required if the NOEC was determined to be 100 percent effluent. A 100 percent effluent NOEC means that there is no observed effect on test organisms in undiluted effluent.

Response

EPA has changed the final permit to accommodate this request.

11) Comment

The permittee requested that certain outfalls designated for stormwater monitoring be changed because of the presence of combined sewer overflow (CSOs) from the City of Bremerton. The potential influence of Bremerton's CSOs wastes on stormwater from the shipyard would undermine the purpose of stormwater monitoring.

Response

Outfalls which serve as City CSOs were exchanged with other outfalls which are representative of stormwater runoff from similar areas within the shipyard. The number of outfalls required to be monitored by the final permit is consistent with the number included in the proposed permit.

12) Comment

The permittee requested that proposed requirements for establishing best management practices (BMPs) for the shipyard be changed. Specifically, the permittee proposes to utilize Ecology's BMP guidance document for shipyards to format PSNS BMPs. A draft BMP document was submitted to EPA.

## Response

In the final permit, EPA has changed the requirement for development of a document which summarizes all shipyard operating directives. These directives, taken collectively, presently constitute the shipyard's BMPs. The final permit requires submittal to EPA (within three months) of a BMP document developed in accordance with the BMP criteria specified in the permit.

### 13) Comment

The permittee expressed concern that it will be difficult to conduct stormwater monitoring after a "significant rainfall event" as defined in the permit. The difficulty is magnified because the sampling will also have to be conducted at low tide. These conditions greatly restrict the times when representative stormwater samples may be collected.

## Response

The definition of a significant rainfall event was taken directly from federal stormwater regulations and EPA is unable to make discretionary changes to this definition. However, EPA understands the logistical problems associated with the required monitoring and will take these difficulties under consideration if monitoring cannot be conducted exactly as specified in the permit. The shipyard is expected to make the best reasonable effort to comply with stormwater monitoring requirements of the permit.

### 14) Comment

The permittee requested that the due date for submittal of discharge monitoring information be changed from the 15th to the 20th day of the month.

## Response

This permit requirement was not changed as a matter of policy and regulation.

### 15) Comment

The permittee requested that condition IV.G.1. be changed to specify that only measurable spill events be reported within 24 hours.

## Response

The final permit was edited regarding spill events requiring 24-hour notification.

16) Comment

The permittee requested that reference to civil liabilities for noncompliance with the permit be deleted because EPA cannot apply civil penalties to another federal agency.

Response

The provision in the permit is a general condition which is included in all permits issued by EPA. It should be noted that although EPA may not presently be able to assess penalties for violations of a permit issued to another federal entity, such penalties may be sought under citizen suit provisions of the Clean Water Act.

17) Comment

Some concerns were expressed about the possible presence of pollutant parameters in discharges from the drydocks that are not regulated in the permit by effluent limitations. Levels of chemical oxygen demand (COD), ammonia and biological oxygen demand (BOD) were reported in the application at levels which may indicate that these parameters and/or other pollutants may be present in the discharge. The commenter speculated that infiltration of contaminated groundwater into the drydocks may be a source of these pollutants. Concern was also expressed that most of the parameters listed in the application were reported by the permittee as "believed absent".

Response

The application included monitoring information characterizing the effluent(s). The permittee indicated that analyses were conducted for parameters reported as "believed absent" on the application. However, the level of detection required by the EPA form were not sufficient to determine potential impacts to water quality criteria for some pollutants.

EPA evaluated all available information during development of the draft permit and did not rely solely upon data from the application. The permittee conducted additional monitoring and provided test results at EPA's request during permit development. The additional monitoring was collected utilizing more sensitive analytical techniques.

Discharges 018 and 019 are approximately two-thirds marine water which continuously seeps into the graving docks at PSNS. COD analyses of marine waters (according to EPA approved methods) requires compensation for salinity effects and results of this test are often erratic. Some chemists recommend that total organic carbon is a better indicator of organics in marine waters

than COD. BOD test results are also often affected by marine water.

In addition to the effluent limitations included in the final permit, the permittee is required to conduct additional chemical specific analyses and whole effluent toxicity testing of drydock discharges. EPA will evaluate these test results and determine if additional limitations or other requirements are necessary to protect water quality.

As mentioned in the fact sheet, evaluation of groundwater contamination and subsequent cleanup (if determined necessary) is being addressed under the State Toxic Cleanup Program and federal Superfund program. Also, monitoring of stormwater is anticipated to provide information as to whether storm sewers are discharging groundwater contaminants.

18) Comment

It was recommended that 24-hour composite samples of drydock discharges be required because of changes in activities which might occur during the course of a day.

Response

The final permit requires monitoring for metals and whole effluent toxicity be collected by composite sampling.

19) Comment

The permittee states that there may be some small discharges of noncontact cooling water through various stormwater drains other than 018, 018A, 019 and 096. These discharges are reported to be of potable water quality and potentially contain small amounts of heat.

Response

EPA does not anticipate that such discharges, as represented by the permittee, pose any threat to water quality. These discharges are authorized under permit part I.A.1.a as potable water. However, the permittee is required to identify and evaluate all discharges through the stormwater system (per the stormwater pollution prevention plan) and implement best management practices to control pollutants, including heat, discharging through these outfalls.

20) Comment

The shipyard presently cannot consistently meet the copper limitations contained in the final permit. The shipyard

requested that a schedule, including interim limitations, be established for achieving compliance with copper limitations.

#### Response

Water quality standards adopted by Washington include provisions (Chapter 173-201A-160(4) WAC) for establishing schedules in permits for water quality-based permit limitations. These standards require that interim limitations be established for the period of time that compliance with the water quality criteria is deferred. Therefore, interim copper limitations have been established in the permit which represent the reasonable minimization of copper discharges through implementation of existing best management practices. The interim limitations are applicable according to the schedule for achieving final compliance as established in the permit. The final compliance date is specified as December 31, 1996.

The permit may be modified according to procedures specified in 40 CFR 122.62 (which includes public notice action) if changes to effluent limitations or the compliance schedule are subsequently requested by the permittee and determined necessary by EPA.

#### 21) Comment

The permittee is concerned that the permit language specifying monitoring of outfall 096 would require reconfiguration of drydock piping so that this outfall may be sampled even if a discharge is not occurring.

#### Response

The permit expresses no such expectations regarding piping changes. EPA anticipates the permittee will make every reasonable effort to obtain samples in accordance with permit requirement if a discharge occurs during the specified sampling periods (ie. daily, weekly, monthly or quarterly). If a discharge from an outfall has not occurred, then the permittee should note that on the discharge monitoring report form.

#### 22) Comment

The permittee requested that requirements for free available chlorine be deleted from the permit.

#### Response

This limitation was based upon federal effluent guidelines for the Steam Electric Point Source Category applicable to discharges from outfall 021. The limitations and monitoring requirements are consistent with the existing permit, with the exception that the permittee is not required to monitor unless use of chlorine

at the steam plant is resumed. Existing requirements for this pollutant parameter are continued in this permit.

23) Comment

The permittee expressed concern that permit language establishing mixing zones implies that future changes to state water quality standards would automatically apply to the shipyard, without a formal modification of the permit.

Response

The permittee is authorized to discharge in accordance with effluent limitations, monitoring requirements and other conditions of the permit. These conditions apply until the permit is formally reissued or modified. Water quality standards are used as a basis for establishing permit requirements. Any changes that may occur in water quality standards after the effective date of this permit, will be addressed in the next formal action on this permit.

24) Comment

The permittee pointed out that many elements of the shipyard's BMPs and the stormwater pollution prevention plan (SWPPP) will likely be identical. The permittee requests that the permit clarify they be allowed to combine the similar portions of these plans.

Response

The permittee may specify the same practice(s) in both documents where a practice satisfies the requirements for development of BMPs and the SWPPP.

25) Comment

The permittee wanted EPA to clarify that requirements to collect samples which are representative of the volume and nature of the discharge (part IV.A.) do not contradict requirements which specify sampling by grab samples.

Response

It is EPA's obvious expectation that a permittee shall collect samples which are representative of their discharge(s). For those samples which have been designated in the permit to be collected as grab, EPA believes such sampling shall result in representative results.

26) Comment

Ecology was concerned that human health criteria were not specifically addressed in the fact sheet discussion.

Response

In section 3.c. of the fact sheet, EPA states that discharges in compliance with effluent limitations and other terms and conditions of the permit are not anticipated to cause any violations of the state's water quality standards (WQS). Human health criteria are part of Washington's WQS since promulgation by EPA of the National Toxics Rule. This fact sheet statement regarding anticipated impacts on WQS was intended to apply to all criteria, including those for protection of human health.

None of the data evaluated during development of this permit indicate the presence of pollutants in PSNS discharges at concentrations which threaten to cause violations of WQS for human health. PCBs were considered the pollutant with the greatest potential to be present, but were not detected in monitoring of discharges. PSNS is required by the permit to conduct monitoring to further characterize discharges for pollutants identified by Ecology's Toxic Cleanup Program and the Superfund Site Investigation Report. Results of this monitoring will be evaluated for potential water quality impacts with regard to all WQS, including human health criteria.

27) Comment

The permittee questioned the basis and authority for the permit requirement that discharges of bilge and ballast water from vessels undergoing service within the shipyard be treated for removal of oil and grease.

Response

The permittee has developed and implemented various procedures for controlling pollutant discharges as shipyard specific operating directives. Such directives, taken collectively, constitute existing BMPs for controlling pollutant discharges from the shipyard. 40 CFR 122.44(k) authorized the establishment of BMPs into NPDES permits.

The PSNS operating directive pertaining to bilge and ballast water specifies that these wastewaters will be treated to remove oil and grease prior to discharge. EPA determined this directive was an appropriate BMP for controlling probable pollutants in such discharges and therefore included it as a permit requirement. EPA also determined that the NPDES exclusion in 40 CFR 122.3 does not apply to discharges from vessels undergoing

maintenance or repairs within the shipyard because such vessels are not engaged in "normal operation".

The shipyard has the flexibility under the permit's language to modify (improve) BMPs without prior EPA consent. Again, it is EPA's intent that this BMP be applied to vessels which are not in service while undergoing repair and/or maintenance by the shipyard.

## Water Quality Calculation for PSNS Permit

### Copper

12 data points

for ND values used 1/2 detection level (1.8 ug/l) = 0.9 ug/l to determine average ( $\bar{X}$ ).

for dissolved metal

$\bar{X} = 4.21 \text{ ug/l}$

std. dev. (r) = 3.15

Coef. of variation (CV) =  $\sqrt{r/\bar{X}} = 0.42$

ratio of dissolved metal to total recoverable (using  $\bar{X}$ ) = 0.32

at 95% confidence level  $Z = 2$

$X = \bar{X} + rZ = 10.52 \text{ ug/l}$  [This is the background concentration calculated at the 95% confidence level which is to be applied as the WQ criteria according to State WQS.]

plug into WQConc calc. program

30-day avg.

Daily Max

6.15 ug/l

10.51 ug/l

To translate DM to TRM apply DM/TRM ratio

(limitation)/0.32 =

19.24 ug/l

32.88 ug/l

Copper  
tot recover

Water Quality Base Permits: Chemical Specific Permit Limits  
(based on EPA 440/4-85-032. LOTUS Worksheet WQBP-CON.WK1)

INPUT \*\*\*\*\*

1. Water Quality Standards/Criteria (Concentration)  
Acute (one-hour) Criteria ..... 32.880  
Chronic (n-day) Criteria ..... 1000.000
2. Upstream Receiving Water Concentration  
Upstream Concentration for Acute Condition (1Q10) ..... 32.880  
Upstream Concentration for Chronic Condition (7Q10) .... 0.000
3. Dilution Factors (1/{Effluent Volume Fraction})  
Acute Receiving Water Dilution Factor at 1Q10 ..... 2.000  
Chronic Receiving Water Dilution Factor at 7Q10 ..... 4.000
4. Coefficient of Variation for Effluent Concentration  
(use 0.6 if data are not available) ..... 0.420
5. Number of days (n1) for chronic average  
(usually four or seven; four is recommended) ..... 4
6. Number of samples (n2) per month to base permit on ..... 4

OUTPUT \*\*\*\*\*

1. Z Statistics  
LTA Derivation (99%tile) ..... 2.326  
Daily Maximum Permit Limit (99%tile) ..... 2.326  
Monthly Average Permit Limit (95%tile) ..... 1.645
2. Calculated Waste Load Allocations (WLA's)  
Acute (one-hour) WLA ..... 32.880  
Chronic (n1-day) WLA ..... 4000.000
3. Back-Calculation of Long Term Averages (LTA's)  
Sigma (same for acute and chronic) ..... 0.4031  
Mu for Acute WLA ..... 2.5553  
Mu-n1 for Chronic WLA ..... 7.8108  
Mu for Chronic WLA ..... 7.7512  
LTA for Acute (one-hour) WLA ..... 13.9652  
LTA for Chronic (n1-day) WLA ..... 2521.0420  
Most Limiting LTA (minimum of acute and chronic) ..... 13.9652
4. Derivation of Permit Limits From Limiting LTA  
Mu for daily maximum permit limit ..... 2.5553  
Mu-n2 for monthly average permit limit ..... 2.6150  
Sigma^2-n for monthly avg permit limit ..... 0.0432  
  
Daily Maximum Permit Limit ..... 32.880  
  
Monthly Average Permit Limit ..... 19.235

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